DOCUMENT RESUME

ED 480 282 EA 032 736

AUTHOR	Machingaidze, Thomas; Pfukani, Patrick; Shumba, Sibangani
TITLE	The Quality of Education: Some Policy Suggestions Based on a Survey of Schools--Zimbabwe. SACMEQ Policy Research Report.
INSTITUTION	United Nations Educational, Scientific, and Cultural Organization, Paris (France). International Inst. for Educational Planning.
REPORT NO	SACMEQ-RR-3
PUB DATE	1998-00-00
NOTE	107p.; Kenneth N. Ross, Series Editor. For other reports in this series, see EA 032 734-740.
AVAILABLE FROM	United Nations Educational, Scientific, and Cultural Organization, International Inst. for Educational Planning, 7-9 rue Eugene-Delacroix, 75116 Paris, France. Web site: http://www.unesco.org/iiep. For full text: http://unesdoc.unesco.org/ images/0011/001151/115172eo.pdf.
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Research (143)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	Administrator Qualifications; Educational Assessment; Educational Environment; Educational Equity (Finance); Educational Facilities; Educational Planning; *Educational Quality; Elementary Education; Evaluation; Foreign Countries; *Grade 6; *Reading Achievement; School Surveys; Scores; Student Characteristics; Teacher Qualifications; Tests
IDENTIFIERS	*Zimbabwe

ABSTRACT

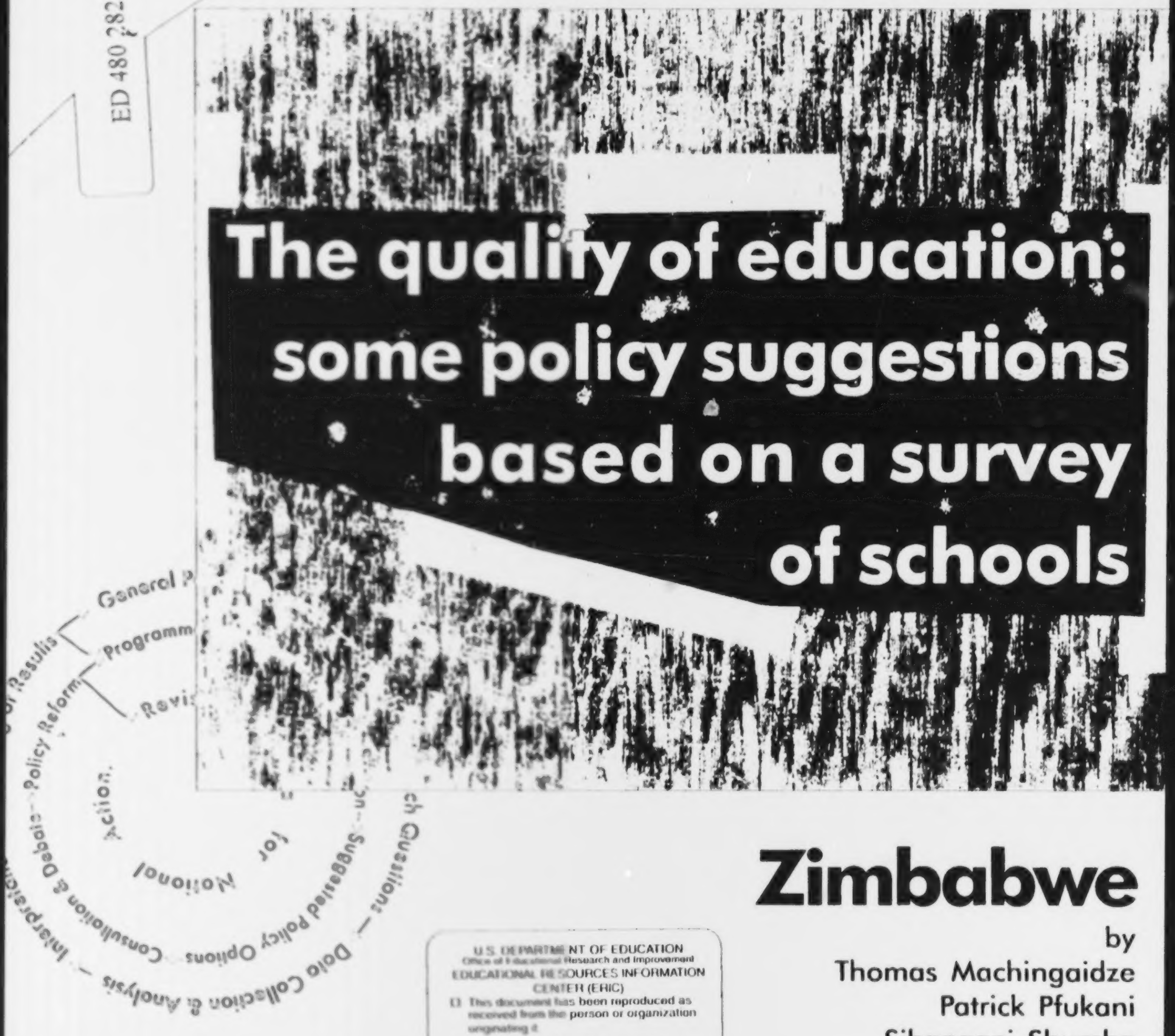
The Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) is a consortium of ministries of education in southern Africa. This bound report--one of seven--presents the research results and policy suggestions that emerged from implementation of SACMEQ's initial educational policy research project. The report looks broadly at five areas of policy concern: (1) baseline data for selected inputs to primary schools; (2) how conditions of primary schooling compare with the Ministry of Education's benchmark standards; (3) whether educational inputs to primary schools have been allocated in an adequate fashion among and within education districts; (4) the level of reading achievement for Grade 6 students; and (5) which educational inputs to primary schools have had the strongest effect on the reading achievement of Grade 6 students. Data for the study were gathered from a student test of basic reading literacy and student, teacher, and principal questionnaires. This report specifically focuses on reading achievement in the nation of Zimbabwe. Along with reading test scores, the report presents information on he characteristics of Grade 6 students and teachers; student access to materials; conditions of school rooms and buildings; and other information on the state of education in Zimbabwe. (Contains 16 references and 41 tables.) (WFA)

Reproductions supplied by EDRS are the best that can be made from the original document.

SACMEQ Policy Research: Report No. 3
Series Editor: Kenneth N. Ross

ED 480 282

The quality of education: some policy suggestions based on a survey of schools


General P
Programm
Revis
of Results
Policy Reform
Interpretation & Debate
Consultation & Debate
Data Collection & Analysis
Data Policy Options
Suggested Policy
Questions
National
for
Action

Zimbabwe

by
Thomas Machingaidze
Patrick Pfukani
Sibangani Shumba

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

J. Hall

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

EA 032 736

BEST COPY AVAILABLE

Ministry of Education
and Culture, Zimbabwe

UNESCO
International Institute
for Educational Planning

SACMEQ Policy Research: Report No. 3
Series Editor: Kenneth N. Ross

The quality of primary education: some policy suggestions based on a survey of schools

---

Zimbabwe

---

by

Thomas Machingaidze
Patrick Pfukani
Sibangani Shumba

Ministry of Education and Culture
Harare, Zimbabwe

International Institute for
Educational Planning,
UNESCO

Ministry of Education
and Culture,
Zimbabwe

The designations employed and the presentation of material throughout this document do not imply the expression of any opinion whatsoever on the part of UNESCO or IIEP concerning the legal status of any country, territory, city or area of its authorities, or concerning its frontiers or boundaries.

The publication costs of this study have been covered by a grant-in-aid offered by UNESCO and by voluntary contributions made by several Member States of UNESCO, the list of which will be found at the end of the booklet.

This document has been composed by IIEP Publications
and printed in IIEP's Printshop

Published by the International Institute for Educational Planning
7-9 rue Eugène-Delacroix, 75116 Paris, France

Cover design by Marie Moncet. Wood cut by Hélène Déry.

© UNESCO 1998

Foreword

The Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) is a consortium of Ministries of Education located in the Southern Africa sub-region. For several years these Ministries have worked in close partnership with the IIEP in order to undertake educational policy research with the main aim of generating reliable information that can be used by decision-makers to plan the quality of education.

In January 1997 the Government of Zimbabwe officially registered SACMEQ as an international non-governmental organization. SACMEQ's Sub-regional Co-ordinating Centre is located within UNESCO's Harare Office. The work of the Centre is managed by a Director and is guided by a Committee chaired by Zimbabwe's Minister of Education. The 'founding members' of SACMEQ are the IIEP, Kenya, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania (Mainland and Zanzibar), Zambia, and Zimbabwe.

SACMEQ's programme of research and training has four features which have optimized its contributions to the field of educational planning in Africa: it provides research-based policy advice concerning issues that have been identified by key decision-makers, it functions as a co-operative venture based on a strong network of educational planners, it combines research and training components that are linked with institutional capacity building, and its future directions are defined by the participating Ministries.

SACMEQ's initial educational policy research project was assisted during 1994/1995 through a Funds-in-Trust (FIT) agreement between the Italian Government and UNESCO. In 1996 SACMEQ's sub-regional activities were financed under an FIT agreement with the Netherlands Government. This arrangement was renewed in 1997 for the launch of SACMEQ's Sub-regional Co-ordinating Centre.

The costs associated with future SACMEQ projects will be financed from two sources. First, the SACMEQ Sub-regional Co-ordinating Centre will support co-operative sub-regional activities which include project design, sub-regional training workshops, construction of data archives, and dissemination of results. Second, the participating Ministries will cover their own within-country research costs related to printing, fieldwork operations, data entry and cleaning, the provision of general overheads for project co-ordination, and the publication of national reports.

This report presents the research results and policy suggestions that emerged from the implementation of SACMEQ's initial educational policy research project. It is offered to other educational planners – not as a final evaluative comment, but rather as a stimulus for constructive discussion of educational policy options, and also as a successful model of productive collaboration among educational planners from many different countries.

Hon. Mr Gabriel M. Machinga
Minister of Education and Culture
Harare, Zimbabwe

Dr Jacques Hallak
ADG UNESCO / Director, IIEP
Paris, France

Further information

For further information about SACMEQ and its policy research programme, please contact:

The Director
SACMEQ
UNESCO Regional Office
8 Kenilworth Road
Harare
Zimbabwe

Telephone: (263-4) 776 114-5, 776 775, 746 231, 786 598
Fax: (263-4) 776 055
E-mail: UHHAR@UNESCO.ORG

For further information about the IIEP's programme of co-operation with SACMEQ please contact:

Dr Kenneth N. Ross
International Institute for Educational Planning
7-9 rue Eugène-Delacroix
75116 Paris
France

Telephone: (33-1) 45 03 77 19
Fax: (33-1) 40 72 83 66
E-mail: 100143.37compuserve.com

Acknowledgements

SACMEQ's initial educational policy research project was a co-operative cross-national initiative focused on shared policy concerns that were related to planning the quality of primary education in the Southern Africa sub-region. Each national educational policy report prepared for this project therefore represents a 'team effort' that has been made possible through the hard work of many people.

The International Institute for Educational Planning and the SACMEQ network of Ministries of Education would like to thank everyone involved in the successful implementation of this important project and, in particular, to acknowledge the contributions made to this report by the following people.

Kenya
Mary Kariuki

Malawi
Joseph Chimombo

Mauritius
Dhurumbeer Kulpoo

Namibia
Friedhelm Voigts

Tanzania (Zanzibar)
Sebtuu Nassor
Khadija Ali Mohammed

Zambia
Manasseh Nkamba
Joe Kanyika

Zimbabwe
Thomas Machingaidze
Patrick Pfukani
Sibangani Shumba

IIEP
Kenneth N. Ross
T. Neville Postlethwaite
Mioko Saito
Jocelyne Vellien

Contents

Foreword
Acknowledgements

Chapter 1 The national educational context 1

Background to the policy concerns 1
Demography 1
Literacy 1
School education in Zimbabwe 2
School ownership 3
Pupil/teacher ratios 4
Transition rates 5
Indicators of efficiency in the school system 5
Gender equity and disparities 6
Pupil achievement 6
The organization of the school system 6
Sex ratios in the school system 7
Educational financing 8
Sources of policy initiatives 9
The Zimbabwean Reading Achievement Study 9
The aims of the study 11
Conclusion 11

Chapter 2 The conduct of the study 12

Introduction 12
Acceptance of the project by Ministry's senior management 12
Acquiring funds for the project 12
Co-operation with SACMEQ 13
Instrument development 13
Sampling 16
Calculation of sampling errors 18
Data collection 21
Data entry and data cleaning 23
Conclusion: Structure of the Report 24

Chapter 3 What are the baseline data for selected education inputs to primary schools in Zimbabwe? 25

Introduction 25
What were the characteristics of Grade 6 pupils? 25
What were the characteristics of Grade 6 teachers? 31
What were the teaching conditions in primary schools? 34
What aspects of the teaching function designed to improve the quality of education were in place? 39
What was the general condition of school buildings? 45
What level of access did pupils have to books? 47
Conclusion 49

Chapter 4 **How do the conditions of schooling in Zimbabwe compare with the Ministry's own benchmark standards?** **50**

Introduction 50
Basic organizational features of schooling 50
Classroom furniture and supplies 52
Academic and professional qualifications of teachers and school heads 56
Conclusion 58

Chapter 5 **Have educational inputs to primary schools been allocated in an equitable fashion?** **60**

Introduction 60
Two approaches to the measurement of equity 60
Equity calculations for material resource inputs 62
Equity calculations for human resource inputs 64
Conclusion 66

Chapter 6 **What is the level of reading literacy for Grade 6 pupils overall and in the three domains of reading literacy?** **67**

Introduction 67
The structure of the reading test 67
The construction of six reading test scores 68
Analysis of mastery levels 69
Analysis of mastery levels for sub-groups 72
Analysis of narrative, expository, and document sub-scales 74
Conclusion 77

Chapter 7 **Was there a change in reading-literacy levels for Grade 6 pupils in Zimbabwe during the period 1991 to 1995?** **78**

Introduction 78
Analysis of overall reading-literacy levels by region and for Zimbabwe 79
Analysis of overall reading-literacy levels by selected sub-groups 80
Conclusion 82

Chapter 8 **An Agenda for Action** **83**

Introduction 83
Classification of policy suggestions 83
A four-stage Agenda for Action by the Ministry 92
Co-ordination of Ministry responses to the Agenda for Action 93
The future 94

References **95**

Chapter 1

The national educational context

Background to the policy concerns

The aim of this chapter is to provide a framework for the interpretation of the Grade 6 data analyses presented later in the report. First, data related to Zimbabwe's demographic characteristics and literacy rates have been presented. This is followed by a general overview of the structure and operations of Zimbabwe's system of school education. Finally a discussion has been presented concerning the sources of policy advice and policy analysis that are available to the Government of Zimbabwe. This policy context is then linked to the research results of a 1991 educational policy research study in Zimbabwe and also to the main aims of the study described in this report.

Demography

Zimbabwe is a land-locked country in Southern Africa with an area of 390,757 square kilometres. At the last national census in 1992 the country's total population was around 10.5 million persons, of whom 49 percent were male and 51 percent female. The average population growth rate between 1982 and 1992 was 3.1 percent per annum and the population density in 1992 was 26.6 people per square kilometre.

Zimbabwe has three official languages: English, Ndebele, and Shona. Ndebele and Shona are the official languages of instruction, in those areas where they are predominant, during the first three years (Grades 1-3) of primary education, after which English becomes the official medium of instruction. English is also the language of commerce and business and the main language of communication in government.

Literacy

Zimbabwe's most recent population census (August 1992) revealed that the national literacy rate in the adult population (15+ years) stood at 80.4 percent. The average rural literacy rate was 73.5 percent, whilst that in urban areas was 92.8 percent. There were gender disparities in these literacy rates. The rural sector had a female literacy rate of 67.4 percent compared with 91.2 in urban areas, with an overall national female literacy rate of 75.1 percent (Ministry of Education, 1996). This information has been summarized in *Table 1.1*.

The current educational policy strategy is aimed at eradicating the present level of adult illiteracy of 20 percent by the year 2000, and also at providing quality adult and family-life education.

Table 1.1. Percent national literacy rates in the adult population (15+ Years) by location and gender in 1992

Location	Male	Female	Average
Rural	80.8	67.4	73.5
Urban	94.3	91.2	92.8
National	86.1	75.1	80.4

Source: CSO, National Report in MOE, 1996: *Education in Zimbabwe – Facts and information.*

School education in Zimbabwe

Zimbabwe acquired its independence in 1980. Independence was followed by an unprecedented expansion of the education system at all levels. The first task of the new Government of Zimbabwe in the 1980s was to dismantle the inequities which had characterized the colonial education system. To accomplish this task, and to keep faith with its electorate, the government declared education to be a basic human right and, with the help of local communities, set out to expand access to primary and secondary education within the framework of a unified and non-racial system of education.

The quantitative achievements that were made in expanding the whole education system were spectacular by Third World standards. This massive expansion has often been referred to as Zimbabwe's *education miracle* because through this process Zimbabwe moved closer to the achievement of Universal Primary Education. Although this report is concerned with reading achievement in Grade 6, the penultimate grade of primary school, background information has been provided on both primary and secondary education so that the reader may understand the efforts that had to be made by Zimbabwe after independence, and also to locate Grade 6 in the context of both primary and secondary schooling.

Primary school enrolments increased significantly in Zimbabwe from 1,235,815 in 1980 to 2,476,575 in 1995, an increase of 100.4 percent. The number of primary schools also increased from 3,161 to 4,633 during the same period, due largely to an impressive community mobilization strategy which resulted in the building of an additional 1,000 rural schools with limited government contributions (World Bank, 1994: *The public sector and poverty reduction options*). The number of teachers also rose dramatically after Independence from 28,500 in 1980 to 64,184 teachers in 1995. These figures included trained and non-trained teachers. Capital development at the primary/school level has been the responsibility of various non-governmental authorities, whilst the central government has been involved in the provision of secondary education in both urban and rural areas.

The trend in demand for both primary and secondary education, measured by school enrolments and the resultant increase in the physical, human and material resources, reached its peak during the 1981-1985 period. This period was followed, at the primary/school level, by negligible growth trends between 1986 and 1990, which averaged 1.9 percent. This was far less than the increase in the school/age population, estimated at 3.1 percent per annum between 1982 and 1992. Since 1991, however, primary/school enrolments have been increasing at an average rate of 3.6 percent, which is only slightly higher than that of the age population (see Table 1.2 below).

Table 1.2. Growth rates of enrolments and schools at the primary and secondary school levels, 1980-1995 (in percentages)

Years	Enrolment growth rates			Schools' growth rates		
	Primary	Secondary	Zimbabwe	Primary	Secondary	Zimbabwe
1980-85	13.1	47.9	16.2	6.2	63.6	10.7
1986-90	-1.9	6.7	0.4	1.4	4.5	2.1
1991-95	3.6	1.7	3.1	0.5	0.3	0.4

Source: MOE, 1996: *Education in Zimbabwe – Facts and information.*

Secondary-school expansion has been even more spectacular than that which occurred at the primary level, with the number of students increasing from 74,321 in 1980 to 711,090 in 1995. The number of schools increased from 197 in 1980 to 1,535 in 1995, of which 193 were government and 1,342 non-government (private) secondary schools. The number of secondary-school teachers rose from just over 3,000 to 26,823 during the same period. This massive expansion of secondary education attracted so much international attention that Zimbabwe acquired the reputation of 'Africa's flagship' in the development of education in Eastern and Southern Africa.

School ownership

The distribution of primary schools by ownership (responsible authority) in 1995 has been presented in Column 1 of Table 1.3 below. Government owned only 6.0 percent of all the primary schools in the country, the other 94.0 percent being owned by a variety of non-governmental authorities.

Table 1.3. Distribution of primary and secondary schools by responsible authority (1995)

Responsible authority	Primary schools		Secondary schools	
	Number	%	Number	%
Government	266	6.0	193	12.6
Non-government	4367	94.0	1342	87.4
Total	4633	100.0	1535	100.0

Source: MOE, 1996: *Education in Zimbabwe – Facts and information.*

Further analysis of the data in Table 1.3 revealed that there were 6,168 schools in Zimbabwe in 1995, 7.4 percent of which were government and 92.6 percent non-government.

Pupil/teacher ratios

The ratio of enrolled pupils to teachers, a rough indicator of average class size, is rigidly enforced in the Zimbabwean school system. The official pupil/teacher ratios stand as follows.

(a) 40:1 at the primary-school level (Standards 1-7),
(b) 33:1 at the junior-secondary level (Forms 1 and 2),
(c) 30:1 at the 'O' (Forms 3 and 4), and
(d) 20:1 at the 'A' level (Forms 5 and 6).

Table 1.4. Primary and secondary (Forms 1-4) school pupil/teacher ratios (selected years)

Year	Primary schools		Secondary schools	
	Pupil/teacher ratio	Pupil/trained teacher ratio	Pupil/teacher ratio	Pupil/trained teacher ratio
1980	43.4	60.5	19.9	20.5
1982	41.0	80.4	37.4	43.6
1984	41.3	101.5	28.3	48.3
1986	38.9	77.5	27.6	52.6
1988	38.3	75.1	27.2	53.9
1990	34.8	67.6	26.4	54.9
1992	38.5	57.4	25.5	33.1
1994	39.3	n.d.	25.5	n.d.
1995	38.7	n.d.	n.d.	n.d.

Source: *MOE, Statistics Unit (selected years).*

The fluctuations in the primary and secondary school pupil/teacher ratios for selected years in the period 1980 to 1994 have been shown in Table 1.4. It will be seen that the ratio decreased somewhat after independence in primary schools – but has tended to fluctuate in secondary schools. It averaged about 38.5 for primary schools in the 1990s. The secondary school teacher/pupil ratio (Forms 1-4) has remained consistently higher than the officially mandated levels. Only in 1980 was it close or equal to the official ratio. On average, however, pupil/teacher ratios at both primary- and secondary-school levels are quite high and show the persistence of overcrowding in the school system.

These pupil/teacher ratios acquire greater meaning when they are used to compare pupils to trained teacher availability. Data in Table 1.4 point to the existence of a very serious deficiency in the trained teacher resource throughout the school system. At the height of the expansion during the first five years of independence, the primary-school pupil/trained teacher ratio increased from 60:1 to as much as 101.5:1, thus compelling government to draft large numbers of untrained and under-qualified teachers into the system. The situation was equally bad at the secondary-school level, with these ratios standing at almost double the officially mandated teacher/pupil ratios, signifying severe shortages of trained teachers in the school system.

The situation has, however, improved somewhat since about 1992, reflecting the achievements being made in producing suitably qualified and trained teachers from the teachers' colleges. Out of the 91,000 teachers in the system in 1995, 73.4 percent were trained and 26.6 percent untrained. However, the situation is still very bad at the primary-school level, where 28.9 percent out of the 61,184 teachers in the system in 1995 were untrained. The secondary-school level has 26,823 teachers, of whom 21.3 percent are untrained (MOE, 1996).

The improved situation regarding teacher professional qualifications in the face of continued increases in enrolments and shrinking budgets means that an increasing share of the education budget goes to salaries, estimated at about 95.5 percent, while funds available for operational expenditures have declined. This creates problems in the Ministry's quality-enhancement efforts, such as upgrading the quality of teachers, school supervision, and provision of adequate teaching/learning materials for schools.

Transition rates

The transition from primary school to the first year of secondary education decreased from 86 percent in the period 1982 to just under 68 percent for both boys and girls. Female transition rates declined from 82 percent in 1981 to 66.5 percent in 1995 compared with 69.3 percent for boys in the latter year (MOE, 1996).

Indicators of efficiency in the school system

(a) Drop-out rates

Studies carried out by the Ministry of Finance's Monitoring and Implementation Unit found that the drop-out rates in the school system had fluctuated a great deal in the primary school but eventually stabilized in the 1990s at around 28 percent for boys and 29 percent for girls.

(b) Survival rates

Completion rates at the primary-school level have averaged 72 percent of a grade cohort since 1992. Thus, 28 percent of children initially enrolled in Grade 1 did not complete all seven grades of primary school. The government's target is to raise the completion rate to 100 percent by the year 2000.

(c) Repetition rates

Repetition rates in the school system are difficult to estimate accurately because the practice is against policy. However, circumstantial evidence has shown that repetition rates were especially high at Grades 5 and 6. As will be seen in *Chapter 3* of this report, the self-reports of Grade 6 pupils indicated that about 40 percent had repeated at least once.

Gender equity and disparities

There are gender disparities in Zimbabwe's education system. Although statistics show that participation rates in education are nearly equal for both boys and girls at the primary-school level, and that girls' drop-out rates during primary school are about equal to those of boys, the proportion of girls who make the transition from primary to secondary school is about 64 percent compared with 73 percent for boys. Moreover, girls' subject-matter achievement in examinations has been found to be consistently lower than that of boys in certain key school subjects such as science and mathematics.

Pupil achievement

The Ministry of Education is concerned about the quality of education as reflected in the low primary school leaving examination pass rates at Grade 7 and at 'O' level. In the 1992 examinations, primary school pass rates were 47 percent in English, 44 percent in mathematics, 55 percent in the general paper and 88 percent in African language (World Bank, 1994). Pupil performance and pass rates at the 'O' level cause even greater concern.

One of the chief causes of low pupil achievements is the rapid expansion of the education system, which over-stretched the Ministry's resources and capacity to service the school system. As pupil/teacher ratios increased and per-pupil expenditures declined and the proportion of untrained teachers increased, the quality of education fell in the 1980s and has not improved significantly in the 1990s. Questions of quality, relevance, efficiency, and gender equity have therefore become major policy issues in the 1990s.

The organization of the school system

The formal school system is divided into four categories or levels: pre-school, primary, secondary and tertiary levels.

(a) Pre-primary education

The Early Childhood Education and Care (Pre-school) Programme caters for more than 7,000 pre-school centres. Only about 50 percent of these centres meet the minimum Ministry norms for registration and receiving direct government inputs (payment of centre staff salaries and inspection and maintenance of standards). It was estimated in 1993 that only 20 percent of children had access to pre-school education through the Early Childhood Education and Care Programme. The child/centre tutor ratio is 20:1.

(b) Primary education

The legal age of entry into primary school in Zimbabwe is six years. In the 1990s under-age enrolments have become common in the urban areas whilst over-age (delayed) enrolments have tended to increase in the rural areas. Primary education consists of a seven-year cycle corresponding largely to the 6 to 12-year-old age group. The gross enrolment rate was estimated by UNICEF (October 1993:69) to be 109 percent, while the net enrolment was estimated at 85 percent. In its National Programme of Action for Children, the government has set the target of 100 percent net enrolment rate for the primary school by the year 2000 (Government of Zimbabwe and UNICEF, 1993).

(c) Secondary school education

Secondary education is sub-divided into three sequential and hierarchical levels as follows:

(i) the Zimbabwe Junior Certificate for 13-14-year-old pupils,

(ii) the General Certificate of Education for students in the 15-16 year range, during which students sit for the Cambridge terminal 'O' level examinations, and

(iii) the Higher School Certificate (GCE 'A' level) which prepares students to enter universities in Zimbabwe and elsewhere or the polytechnics. All secondary schools offering 'A' level studies are 'national schools' and selection into them is closely monitored by the Ministry to ensure that their enrolments reflect the national character and that admissions are based on proven high achievement in the 'O' level examinations. The only exception concerns gender considerations which permit girls to be admitted with slightly lower examination results than boys; this is part of the government's strategy to encourage more women to enter the field of higher education.

Sex ratios in the school system

Primary school tuition fees were introduced in urban primary schools starting with the first term of 1992. Fears were expressed then that the country risked the situation where parents would give preference to sons and pull their daughters out of school. This would have affected the sex ratio of enrolments. However, the ratio of boys to girls in both primary and secondary schools has remained stable and does not seem to have been affected by the social effects of cost-recovery policies related to economic structural adjustment.

Figures for the period 1992 to 1995 showed that girls made up about 49.4 percent of each of the grades 1 to 6 and dropped slightly to 49.2 percent in Grade 7. The overall drop-out rate at the primary-school level remained around 28 percent for boys and 29 percent for girls throughout the 1990s. However, for secondary school, the girls' drop-out rates were virtually the same as those for boys during these four years. The participation of girls at the upper secondary-school level (Forms 5 and 6) showed a major drop compared with that of boys.

Educational financing

Zimbabwe has always considered investment in human resources as a central component of its development strategy. It has consistently allocated major resources to education and other social sectors since independence. The rapid and massive expansion that took place in education soon after independence was made possible largely because the government set aside substantial amounts of limited national resources for capital development and recurrent expenditure in education. In fact education has, in nominal terms, consistently received the highest proportion of the national budget since independence. These budget allocations reached a peak in the 1990/1991 financial year, after which there was a significant reversal for the following two years. However, since 1993/1994 the government has considerably increased education's share – but without reaching the 1990/1991 level. In the 1995-1996 financial year, for example, 14.7 percent of the national budget was set aside for education.

Whilst in nominal terms there has been a steady increase in the education budget, in real terms there has been a steady decline in resources available since 1991. Trends in real per capita spending, for example, show that the peak was reached in the 1990/1991 financial year, followed by a decline which has persisted. In the primary school sub-sector, real per-pupil expenditure dropped from Z$112 in 1980 to Z$76 in 1984, then rose steadily to Z$101 in 1990, and has since fallen again to the level below the 1984 mark.

Compounding the problem of resources for schools is the fact that school salaries take up 95 percent of the education budget, and yet in real terms these salaries have declined steadily since 1984 and, with them, teacher morale. With the prospect of rises in teachers' salaries, less money will be available for material resources to schools. Economic hardships caused by the re-introduction of cost recovery measures in education and other social sectors, a general rise in the cost of living, the decline in the value of the Zimbabwe dollar, as well as the effects of several years of drought, have all eroded the community's ability to render support to education. These are problems which must be addressed within some coherent educational plan, and such a plan should be based on information.

Table 1.5. Budget allocation to education by sector and item 1995/1996 financial year (in percentage)

Item	Primary education %	Secondary education budget %
Salaries and wages	94.30	87.40
Equipment and furniture	0.01	0.80
Schools services	2.17	8.20
Subsistence and transport	0.06	0.10
Building grants-in-aid	3.46	3.40
Total	100.00	100.00

Source: MOE, 1996: *Education in Zimbabwe – Facts and information.*

The budget allocations to education by sector and item for the years 1995/1996 have been presented in *Table 1.5*. These figures show that the majority of resources are allocated to salaries and wages – which leaves very little for infrastructure support.

Sources of policy initiatives

At present Zimbabwe does not have a consolidated national education plan. The future directions for its education programmes are determined by:

(a) the provisions of the Education Act (1987) as amended from time to time, and the successive Five- and Three-Year National Development Plans,

(b) a variety of guidelines and pronouncements, such as the National Programme of Action for Children, Secretary's annual reports, a variety of policy circulars issued from time to time which have not been put together into a coherent document, and

(c) updates, situational analyses, comprehensive education analyses, sector reviews, etc., produced by bilateral, multilateral, and other donor agencies in order to provide the decision-makers in the Ministry of Education and Culture with information that can assist them in their efforts to guide decisions on the future of education.

The government has clearly indicated its intention to effect curricular reforms designed to upgrade quality and relevance, and has plans to achieve equity in the provision of educational services. While the broad educational context is fairly well understood, little information is available about the conditions of schooling out in the field. This dearth of information limits the government's (and the Ministry of Education's) ability to:

(a) make informed decisions on inputs to be provided to schools,
(b) determine the processes that should take place, and
(c) determine the outcomes which should be targeted.

The SACMEQ initiative hopes to contribute to this information base by generating indicators which provide accurate and timely information about what is happening at the school and classroom levels and, through aggregation, what is happening at the national level. Such information will be of enormous value in guiding strategic decisions relating to the achievement of national educational objectives.

The Zimbabwean Reading Achievement Study

The first truly national study of Grade 6 primary pupils' achievement using a standardized reading test in Zimbabwe was of a high international standard and rigorously vetted by curriculum specialists and reading practitioners in the Ministry of Education and Culture. The findings of the study showed that only 38.1 percent of the children reached the Ministry-defined minimum levels of mastery, and that only 13.3 percent reached the desirable levels (Ross and Postlethwaite, 1992). Similarly, in an international study of reading literacy conducted by the International Association for the Evaluation of Educational Achievement (IEA) in 1990-1991, involving 14-year olds from 32 systems of education, Zimbabwean pupils fared rather poorly, performing at about 1.2 standard deviations *below* the international mean (Elley, 1992). The issue of quality at both primary and secondary levels of schooling, measured in terms of reading achievement, is therefore of great concern to the Ministry of Education and Culture.

The research results which emerged from the two studies described above revealed the presence of three main problems in Zimbabwe's education system:

(a) access and participation – particularly in the communal lands and commercial farming areas,
(b) quality as measured by input and achievement levels – particularly in the communal lands and commercial farming areas, and
(c) relevance across the curriculum.

By being a signatory to the World Conference on Education for All, and by consistently devoting a large share of the national budget to education, Zimbabwe has shown its commitment to Universal Primary Education. But it is the quality of the Universal Primary Education that is to be provided which is problematic. Since 1988, the Ministry of Education and Culture has been committed to upgrading quality in the education system. Strenuous efforts continue to be made by the Ministry to revise the primary school curriculum in order to enhance its relevance. The latter effort gained momentum after Zimbabwe ratified the Convention on the Rights of the Child and its provisions which state, *inter alia,* that high quality, relevant education is the right of every child (Articles 28 and 29).

As early as 1980 the government emphasized the issue of equity in all of its social development strategies. In the 1990s the government is only too conscious of gender disparities in the education system. It is now committed to narrowing gender disparities in primary education.

Issues of quality, relevance and equity are best addressed on the basis of research findings, particularly survey research involving probability samples of schools in the system. The data collected through routine censuses facilitate the generation of global indicators, but in the established census-based approach the only form of information disaggregation possible was to 'regions', thus limiting the usefulness of the data. As a result, it has been difficult to determine the exact situation in schools.

Baseline data on reading achievement and selected conditions of schooling have been collected in Zimbabwe using a sample survey approach (Ross and Postlethwaite, 1992). The achievement data were analyzed in terms of such factors as gender, geographical location, land use types, socio-economic background, etc. The same data were further analyzed and policy suggestions made (Murimba et al. (Eds.), 1994). The success which Zimbabwe achieved in carrying out these two research activities, with participation and support of planners from other African countries in the sub-region in the latter study, motivated neighbouring countries to undertake similar studies. This was the basis for the collaboration which is now known as SACMEQ – the Southern Africa Consortium for Monitoring Educational Quality.

The aims of the study

The educational policy research study described in this report was aimed at producing a policy report for consideration by decision-makers in each of the ministries of education that participated in SACMEQ's initial educational policy research study. The focus of the study was on the following specific areas:

(a) a determination of the baseline data for selected inputs to primary education,

(b) an examination of the extent to which conditions in primary schools met the Ministry's benchmark standards,

(c) a determination of the extent to which educational inputs to primary schools have been allocated equitably among regions and within regions,

(d) an assessment of the level of reading literacy at the upper-primary-school level (Grade 6), and

(e) an identification of the educational inputs to primary schools that have the most impact on pupil reading achievement at the Grade 6 level.

Conclusion

It is important to note that the present study is the initial educational policy research project of the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ). The study is, however, based on the Zimbabwean studies referred to earlier. For Zimbabwe, therefore, this study is a replication of the original one. What could be of great interest is to observe whether there has been any qualitative improvement in the levels of inputs, processes and outputs four years after the first study. One aspect of this extremely interesting issue has been taken up in *Chapter 7* of this report in order to examine changes in the reading literacy levels of Grade 6 pupils between 1991 and 1995.

It will also be possible to compare the results of the present study with those of the other four countries involved in SACMEQ's initial project. These comparisons should help instil a healthy spirit of competition in the development of the education system of the countries concerned. These cross-national comparisons will form the focus of later research reports.

Chapter 2

The conduct of the study

Introduction

This chapter describes the way in which the first educational policy research project of the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ) was conducted in Zimbabwe. First, it describes the circumstances within the Ministry which led to the acceptance of the project and how it was subsequently funded. Secondly, it describes the co-operative work undertaken by the SACMEQ countries in order to plan and implement the study in each country. Thirdly, it describes the instrument development, the sampling procedures, the data collection, the data entry and data cleaning exercises, and finally it presents an overview of the structure of this report.

Acceptance of the project by Ministry's senior management

Senior ministry personnel were aware of the collaboration between the International Institute for Educational Planning (IIEP) and the Ministry of Education and Culture (MOEC) with respect to research activities on the quality of education at the primary-school level. Some of them had read the main document, 'The analysis of educational research data for policy development: an example from Zimbabwe', which grew out of this co-operation, because it was made available throughout the Ministry at the time of its production in 1993.

Senior managers were also aware of the fact that this document was the result of a combined effort by educational planners from eight countries in the Southern Africa sub-region and research specialists from the IIEP. They also knew that most of the meetings for the research activities, which had subsequently culminated in the birth of SACMEQ, had taken place in Harare.

In view of the foregoing, senior management in the Ministry of Education needed very little persuasion to accept and appreciate the idea and ideals of SACMEQ. They were particularly proud of the central role that the Ministry had played in pioneering the research activities leading to the formation of SACMEQ.

Acquiring funds for the project

Previous research activities on the quality of education at the primary-school level in Zimbabwe had been jointly funded by the Ministry and the IIEP. For SACMEQ's initial project the arrangement was that each member country would fund its own within-country research activities. In Zimbabwe, SACMEQ activities were incorporated into the Ministry's donor-funded projects and programmes.

Co-operation with SACMEQ

In 1991-1992 the IIEP and the Ministry of Education and Culture of Zimbabwe worked together in order to conduct a research study on 'Indicators of the quality of Education'. The research reports which emerged from this study (for example, Ross and Postlethwaite (1992) and Murimba et al. (Eds.) (1994)) became widely respected in many countries of the Southern Africa sub-region because of their direct impact upon educational policy in Zimbabwe. In October 1992, an IIEP workshop on 'Data building and data management' based on knowledge and experience gathered from the Zimbabwe study was organized in Harare to provide around 50 educational planners from eight countries in southern Africa with the technical skills and research materials required to undertake a national study of primary schools. Further 'hands-on' training on all aspects of computer-based data processing was provided at a more advanced IIEP workshop on 'Data processing for policy report preparation', which was held in Harare, in September 1993.

The educational planners who attended the 1993 seminar subsequently prepared a proposal (Moyo et al., 1993) which was designed to launch a co-operative sub-regional project aimed at monitoring progress towards the achievement of the educational quality goals defined by the 1990 Jomtien Conference on 'Education for All'. This proposal was developed into a major research plan at two meetings, in Paris (July, 1994) and Harare (September, 1994), and it was on the basis of this research plan that the 'Southern Africa Consortium for Monitoring Educational Quality' (SACMEQ) was launched.

At the 1994 Harare meeting the data collection instruments to be used for SACMEQ's initial educational policy research project were constructed in first-draft form so that they could be trail-tested by SACMEQ's National Research Co-ordinators (NRCs) in their respective countries. At the same time, blank tables were designed which would later be used to summarize the results of the data analyses. The NRCs attending the 1994 meetings were from Ministries of Education in Kenya, Malawi, Mauritius, Namibia, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Zambia and Zimbabwe.

Instrument development

The instruments developed by the SACMEQ NRCs were: a pupil test of basic reading literacy; a pupil questionnaire; a teacher questionnaire; and a school head questionnaire.

For the purposes of SACMEQ's initial study, reading literacy was defined as: '*the ability to understand and use those written language forms required by society and/or valued by the individual*'. This definition was found to be sufficiently general to accommodate the diversity of traditions and languages represented in the participating SACMEQ countries, but specific enough to provide guidance for test construction. Writing ability was deliberately excluded from the definition, and only a minimal amount of writing was required of students throughout the testing process.

The domains or types of reading literacy materials included in the pupil test were concentrated on the following three dimensions.

(a) *Narrative prose*: Continuous text in which the writer aimed to tell a story – whether fact or fiction.

(b) *Expository prose*: Continuous text in which the writer aimed to describe, explain, or otherwise convey factual information or opinion to the reader.

(c) *Documents*: Structured information organized in such a way that pupils were required to search, locate, and process selected facts rather than to read every word of a continuous text.

After examining syllabi across SACMEQ countries in the subject area of Grade 6 reading, a common framework or 'blueprint' for the pupil reading test was developed. The blueprint was constructed by preparing a 'skills by domain' table. The three domains have been described above. The seven reading skills were obtained after exhaustive discussion of the most important skills mentioned in the reading syllabus for each country. This table has been reproduced as *Table 2.1*. There were 21 cells in the table and, in order to ensure that the test provided a balanced coverage of the required reading skills and the main reading domains, the number of items allocated for each cell was in proportion to the emphasis given to it across the syllabi. This was a difficult task because it was necessary to restrict the total number of items in the test to around 60 so as to avoid problems of pupil fatigue. In fact, following extensive trial-testing and further analyses of the data from the final data collection, a final list of 59 items was prepared.

To illustrate, across the syllabi around one third of the emphasis was on 'Narrative' (and therefore 21 of the 59 items were allocated for this domain); and within 'Narrative' around one half of the emphasis (10 of 21 items) was on 'Verbatim recall').

Table 2.1. 'Skills by domain' blueprint for the Pupil Reading Test

Reading Skills	Reading domain			Total items
	Narrative	Expository	Documents	
Verbatim recall	10	14	0	24
Paraphrase concept	6	4	0	10
Find main idea	1	1	0	2
Infer from text	4	2	0	6
Locate information	0	0	9	9
Locate and process	0	0	6	6
Apply rules	0	2	0	2
Total items	21	23	15	59

A deliberate decision was taken not to have 'rotated tests' – in which different test forms containing subjects of 'common items' are administered to groups of students. It had been found in previous research carried out by the International Association for the Evaluation of Educational Achievement that some countries had experienced difficulties in fieldwork operations when employing rotated tests. Further, since this study was concerned with reading and not with school subjects that have many sub-skill areas (for example, mathematics or science), it was felt that around 60 items were sufficient to cover the general construct of reading literacy.

Following the construction of the test blueprint, the reading passages and their accompanying test questions were prepared and then subjected to extensive expert review. These passages were selected from items submitted by the SACMEQ Ministries of Education. All items were in a multiple-choice format with four options per item. The possibility of including open-ended questions was considered and rejected because of financial constraints within countries for the training of scorers and for conducting the scoring.

For the trial testing in each country, a judgement sample of at least five schools and one intact class per school was used. A classical item analysis was undertaken on each country's data, and also on the pooled data from all countries. Where the point biserial correlation between the 'correct' answer and the total score was less than 0.20 then either the passage, item stem, or option answer was improved or, if this was not possible, the item was dropped from the final test. Furthermore, if the point biserial correlation between a wrong answer and the total score was positive, then either the option was reworded or the item was dropped from the final test.

After the analysis of the trial-testing data, the reliability of the total test score was considered to be too low and further trial-testing was undertaken on other items. The second phase of trial-testing resulted in a final test version of 59 items with an internal structure as shown in *Table 2.1*. At the same time, it was agreed that a pooled item analysis of the final test data should be undertaken and that if there were items that were 'misbehaving' then they should be dropped. The reliability (KR20) of the final form of the test used for the main data collection in Zimbabwe was 0.89. The reliabilities of the sub-scales were: narrative, 0.77, expository, 0.73, and documents, 0.69.

The questions for the different questionnaires were then prepared so as to address the data collection needs outlined in the blank tables that had been prepared at the initial design phase of the study. Where an indicator was required for a table, the specific variables required for the indicator were listed and then the questions required for each variable were prepared. The questions were then ordered in a systematic fashion within the different questionnaires. The questionnaires were trial-tested on the pupils in the judgement sample schools. The Teacher Questionnaire was tried on the reading teachers of the judgement sample pupils, and the School Head Questionnaire on the school heads of the judgement sample schools. The distributions of responses were examined and, where necessary, revisions were made to the questions. Interviews were also held with the teachers and school heads after they had completed their questionnaires in order to obtain their inputs concerning the clarity and relevance of each question. It should be noted that in one or two countries there were some questions that were considered irrelevant for the country's system but were, nevertheless, retained for the sake of comparability among all of the SACMEQ countries.

Sampling

All sample designs applied in SACMEQ's initial project were selected so as to meet the standards set down by the International Association for the Evaluation of Educational Achievement (Ross, 1991). These standards required sample estimates of important pupil population parameters to be: (a) adjusted by weighting procedures designed to remove the potential for bias that may arise from different probabilities of selection, and (b) have sampling errors that were of the same magnitude or smaller than a simple random sample of 400 pupils (thereby guaranteeing 95 percent confidence limits for sample estimates of population percentages of plus or minus five percentage points, and 95 percent confidence limits for sample estimates of population means of plus or minus one tenth of a pupil standard deviation unit).

Table 2.2. The numbers of schools and pupils in the Desired, Excluded, and Defined populations for Zimbabwe

Stratum	Desired		Excluded		Defined	
	Schools	Pupils	Schools	Pupils	Schools	Pupils
Harare	180	30408	5	24	175	30384
Manicaland	766	51530	41	465	725	51065
Mashonaland Central	329	24138	16	181	313	23957
Mashonaland East	552	37728	39	406	513	37322
Mashonaland West	434	31022	16	165	418	30857
Masvingo	669	45536	29	339	640	45197
Matabeleland North	560	36074	77	864	483	35210
Matabeleland South	437	20936	46	479	391	20457
Midlands	630	44186	35	404	595	43782
Zimbabwe	4557	321558	304	3327	4253	318231

The desired target population in Zimbabwe was *all pupils at the Grade 6 level in 1995 at the tenth month of the school year who were attending registered government or non-government schools in the country.* The numbers of pupils in the desired, excluded, and defined populations have been presented in *Table 2.2.*

All schools which had a Grade 6 enrolment of fewer than 20 pupils were excluded. *Table 2.2* indicates that Harare had the lowest number of excluded schools (5) and pupils (24). On the other hand, Matabeleland North had the highest number of excluded schools (77) and pupils (864).

The 304 excluded schools covered 6.7 percent of the desired target population of schools, but this represented only 3,327 pupils, which was just 1.0 percent of the pupils in the desired target population. Sampling weights were applied to 'adjust' for missing data and also to ensure that the relative size of the defined target population across regions was accurately represented in the relative sizes of the weighted sample data across regions.

From the defined population, a probability sample of schools (with probability proportional to the total enrolment in Grade 6 in each school) was drawn. Twenty schools were sampled from regions with more than 600 schools, while 15 schools were sampled from regions where the number of schools was below this figure. This resulted in a planned national sample of 150 schools and 3,000 pupils (see *Table 2.3*). The sample design was designed to provide an 'equivalent sample size' (Ross and Wilson, 1994) of 400 pupils, based on an estimated intra-class correlation (rho) for pupil reading test scores of around 0.30.

Within selected schools, a simple random sample of 20 pupils from all Grade 6 pupils was drawn. The figure of 20 pupils was chosen because, from practical experience, it was known that increasing the number of pupils within schools above this figure would increase the accuracy of sampling by a negligible amount, but would increase the cost of the data collection considerably. There were also concerns among the SACMEQ NRCs that conditions in many schools would not permit a valid administration of the reading test if more than 20 pupils per school were involved.

The response rates for the sample have been recorded in *Table 2.3*. Masvingo region achieved the lowest response rate of 84 percent, while Harare region achieved the highest response rate of 95 percent. Nationally, the percentage response rate for schools was 100 percent, while that of pupils was 90 percent. The non-responding pupils were those who were absent on the day of testing.

Table 2.3. The planned and achieved samples of schools and pupils

Strata	Schools		Pupils	
	Planned	Achieved	Planned	Achieved
Harare	15	15	300	285
Manicaland	20	20	400	350
Mashonaland Central	15	15	300	273
Mashonaland East	15	15	300	266
Mashonaland West	15	15	300	275
Masvingo	20	20	400	337
Matabeleland North	15	15	300	281
Matabeleland South	15	15	300	276
Midlands	20	20	400	354
Zimbabwe	150	150	3000	2697

At the first stage of sampling, schools were selected with probability proportional to the number of pupils who were members of the defined target population. To achieve this selection a 'random start-constant interval' procedure was applied (Ross, 1987). In several strata there were some schools with numbers of pupils in the defined target population that exceeded the size of the 'constant interval', and therefore each of these schools was randomly broken into smaller 'pseudo schools' before the commencement of the sampling.

At the second stage of sampling a simple random sample of 20 pupils was selected within each selected school. Sampling weights were used to adjust for the disproportionate allocation of the sample across regions and also to account for the loss of student data due to absenteeism on the day of the data collection.

Calculation of sampling errors

When data are collected using multi-stage sample designs from sources at different levels of data aggregation (pupil, teacher, school) a great deal of care needs to be taken in interpreting the stability of sample estimates for population characteristics. In this report, all data analyses were undertaken at the between-pupil level. That is, all data collected from teachers and school heads were disaggregated across the pupil data file before analyses were undertaken.

The interaction of sample design and level of data analysis required that extra caution be used in interpreting estimates obtained by using information from teachers or school heads. The sampling errors of estimates derived from these two 'disaggregated' sources were larger than the figures that were reported when using standard statistical software packages.

In the following chapters of this report, the standard errors of sampling have been provided for all important variables. The calculation of these errors acknowledged that the sample was not a simple random sample – but rather a complex two-stage cluster sample that included weighing adjustments to compensate for variations in selection probabilities. The errors were calculated by using the PC-CARP software (Fuller et al., 1986). This software employs the Taylor's Series Approximation in order to calculate sampling errors and design effects.

The sampling errors have been labelled 'SE' in the tables presented throughout this report. For example, consider the percentages and means that have been reported in *Table 2.4*.

(a) For Zimbabwe overall the *sample percentage* of pupils who reached the minimum level of mastery on the reading test was 56.4 percent and the sampling error (SE) was 1.53 percent (see *Table 2.4*). These figures indicated that one could be 95 percent confident that the *population percentage* of pupils who reached the minimum level of mastery was within the following limits: 56.4 ± 2 (1.53) percent. That is, between a high limit of 59.5 percent and a low of 53.3 percent.

(b) For Zimbabwe overall the *sample mean* for pupils on the 59-item test was 26.4 and the sampling error (SE) was 0.44 (see *Table 2.4*). These figures indicated that one could be 95 percent confident that the *population mean* for pupils on the 59-item test was within the limits: 26.4 ± 2(0.44). That is, between a high limit of 27.3 and a low of 25.5.

Table 2.4. The sampling errors (SE), design effects, and actual/effective sample sizes for selected variables at the pupil, teacher, and school head levels (for Zimbabwe overall)

Variable	Mean	%	SE	Design effect	Sample size Actual	Sample size Effective
At pupil level						
Minimum mastery level		56.4	1.53	2.57	2697	1049
Desirable mastery level		37.0	1.59	2.94	2697	917
Score on total test	26.4		0.44	5.02	2697	537
Score on essential items	15.2		0.25	4.72	2697	571
Average				3.81	2697	769
At teacher level						
Teacher academic education	12.8		0.16	14.47	2697 (350)	186
Total classroom resources	9.1		0.23	15.20	2697 (350)	177
Available classroom library		46.5	3.59	14.00	2697 (350)	193
Sex of teacher		21.8	2.77	12.58	2697 (350)	214
Average				14.06	2697 (350)	193
At school head level						
Pupil-toilet ratio	31.6		1.21	19.31	2697 (150)	140
Total school resources	9.2		0.30	14.04	2697 (150)	192
Available school staffroom		30.3	3.54	16.05	2697 (150)	168
Sex of school head		9.6	2.21	17.28	2697 (150)	156
Average				16.67	2697 (150)	164

Table 2.5. The sampling errors (SE), design effects, and actual/effective sample sizes for selected variables at the pupil, teacher, and school head levels (an example for Harare region)

Variable	Mean	%	SE	Design effect	Sample size Actual	Sample size Effective
At pupil level						
Minimum mastery level		77.7	4.00	2.63	285	108
Desirable mastery level		61.1	5.09	3.11	285	92
Score on total test	33.1		1.57	5.26	285	54
Score on essential items	19.0		0.91	5.33	285	53
Average				4.08	285	77
At teacher level						
Teacher academic education	14.7		0.33	9.40	285 (62)	30
Total classroom resources	10.9		0.41	5.71	285 (62)	50
Available classroom library		54.4	8.45	8.20	285 (62)	35
Sex of teacher		52.4	0.92	9.09	285 (62)	31
Average				8.10	285 (62)	37
At school head level						
Pupil-toilet ratio	34.9		5.02	20.34	285 (15)	14
Total school resources	15.4		0.79	20.34	285 (15)	14
Available school staffroom		86.7	9.05	20.26	285 (15)	14
Sex of school head		13.3	9.09	20.34	285 (15)	14
Average				20.32	285 (15)	14

Computer stored variable names: xscrmin, xscrdes, scr59, scr34, xtqyrsed, xtrestot, tresclib, tsex, xstratio, xsrestot, sresstaf, ssex.

As mentioned above, by using the PC-CARP software, it was possible to establish the sampling errors for all variables presented in this report. It is extremely interesting to examine the values of the 'design effect' (Kish, 1965) and the 'effective sample size' (Ross, 1987) for a selection of these variables across the different levels of data acquisition. The design effect is an indicator of the increase in sampling error that occurs for a complex sample in comparison with a simple random sample of the same size. The effective sample size offers an alternative approach to describing the impact of the complexity of the sample design and the data level on the precision of sample estimates.

To illustrate, consider the design effect and effective sample size values for the variable describing minimum mastery level in *Table 2.4*. The design effect value of 2.57 indicated that the variance of the sample estimate of the mean on this variable was 2.57 times larger than would be expected for a simple random sample of the same size. The effective sample size value of 1049 showed that the complex sample of 2,697 pupils had a sampling error for this variable which was the same as would be obtained by employing a simple random sample of 1,049 pupils.

Now consider the values of the effective sample size for data collected at the teacher and school head level. These data were disaggregated across the 2,697 pupils – but notice that the effective sample size for these variables was much smaller. For example, the effective sample size for 'Teacher academic education' was 186 pupils, and the effective sample size for 'Pupil-toilet ratio' was 140 pupils. The main point made here is that the sampling errors for information gained from teachers and school heads were much larger than would be expected, than would occur by using the total number of pupils as the sample size in sampling error calculations.

In *Table 2.5* the information concerning sampling errors, design effects, and actual effective sample sizes, has been presented, as an illustration, for one region: Harare. The information contained within this table permitted one to consider the stability of sample estimates obtained for pupils in the Harare region. Notice that, again, the source of data (pupil, teacher, or school heads) had a dramatic impact upon the values of the design effects and the effective sample sizes. The data presented in *Tables 2.4 and 2.5*, and the sampling error tables for all of the other regions in Zimbabwe, were employed to make valid estimates of sampling errors for all estimates presented in this report.

Data collection

The fieldwork was guided by two detailed manuals which had been developed by the SACMEQ National Research Co-ordinators (NRCs). The NRC Manual listed precisely what had to be done at every step in the conduct of the study, and the Data Collectors Manual detailed every step that had to be taken from the minute the data collection instruments were received to the minute they were returned to the Ministry. The manual for the data collectors was used by the NRCs to conduct training sessions for the data collectors. These training sessions usually lasted one whole day.

The success of the project hinged on the extent to which the data collection exercise would be a success. It was, therefore, necessary that all the people who were in a position to facilitate efficient and effective data collection should be given advance notification of this activity.

Letters were, therefore, forwarded to all regional directors and heads of the sampled schools explaining the project and urging them to co-operate so as to make the project a success.

The training of the education officers (Planning), who acted as the Regional Research Co-ordinators (RRCs) took place on 23 August 1995 at Head Office. The RRCs then proceeded to train district education officers (DEOs) who were the data collectors. *Table 2.6* below shows the training schedule for data collectors.

Table 2.6. Training schedule for data collectors in the regions, September 1995

Region	Data	Number of data collectors	Number of schools sampled
Harare	25/09/95	5	15
Manicaland	29/09/95	7	20
Mashonaland Central	18/09/95	6	15
Mashonaland East	19/09/95	5	15
Mashonaland West	19/09/95	5	15
Masvingo	29/09/95	7	20
Matabeleland North	19/09/95	5	15
Matabeleland South	19/09/95	6	15
Midlands	21/09/95	7	20
Total		53	150

The training of data collectors was a great success in all the regions. However, during the training, the following problems were noted:

(a) Some pages for the Pupil Booklet were either missing or blurred. The RRCs had to replace these by photocopying.

(b) Question 14, option 14.2, presented some problems as completing secondary school in Zimbabwe before independence could mean completing Junior Certificate, 'O' Level or 'A' Level.

(c) A similar problem to that above was encountered in Question 4 of the Teacher Questionnaire, which requested the number of years of academic education each teacher had completed. In Zimbabwe's case, what is important is not the number of years spent per level of education, but the level of academic education finally completed successfully, whether through formal or non-formal education. Some DEOs proposed that similar studies in the future should include questions on mobile community libraries which are used by some schools.

The data collection exercise itself took place during the first and second weeks of October 1995. The following problems were noted during the data collection:

(a) Four regions reported that the testing sessions for pupils appeared too long as pupils showed signs of fatigue before nearing the end of the activity.

(b) In a few remote schools some Grade 6 teachers, school heads and Grade 6 pupils were found to be absent on the day of testing. The Midlands region reported that schools where school heads were absent also had the highest number of absent pupils. This is an interesting relationship which warrants further investigation.

(c) In Manicaland, one school was inaccessible to the data collector due to rough terrain and the Grade 6 pupils and their teacher had to travel to another school in a more accessible location to participate in the test exercise.

(d) In one school, a school head who was also the Grade 6 teacher had to complete both the School Head Questionnaire and the Teacher Questionnaire.

(e) Regional research co-ordinators and the DEOs, who were the data collectors, strongly recommended that, for future studies of this nature and size, the random sampling and completion of pupils' personal particulars should be done on the first day and the second day should be devoted to the test. This option had been given in the manual for data collectors – but was not used.

(f) Success in the data collection exercise was largely attributed to the fact that all participants treated it as part of their normal duties. The majority of the data collectors used their personal vehicles to travel to the schools, as they had applied in advance for travelling and subsistence allowances. The few who did not have personal vehicles used government vehicles from the regional pool.

Data entry and data cleaning

The data entry exercise started at the beginning of January 1996. A separate room equipped with two personal computers and a laptop computer was set aside for this exercise. A data entry committee was set up, consisting of an overall supervisor, a technical officer and data entry clerks. The data entry committee started with the Pupil Booklet followed by the School Head and Teacher Questionnaires. By 30 January 1996 data entry was complete. The last instruments to be entered were the School Form and Student Name form, which in the rush to meet the SACMEQ deadlines had been forgotten until a timely reminder came for the IIEP. These forms were dealt with very quickly (four days) spread over the first two weeks of February. The total duration for the data entry exercise was, therefore, six weeks.

The Data Entry Manager (DEM) computer software developed at the IIEP (Schleicher, 1995) was used to manage the data entry. This software was adapted specifically for the entry of SACMEQ data. No problems were encountered in the installation and use of this software.

The data validation and cleaning procedures were undertaken by the technical team. The Audit Trail and Unique ID Check techniques were employed. The former technique was used to:

(a) check whether data for all the sampled schools had been entered, and

(b) check the accuracy of district codes.

The Unique ID Check procedure was used to ensure that only one record with the same pupil, teacher and school identification existed. The checks proceeded as follows:

(a) The variables ID SCHOOL and ID PUPIL were used to trace duplicate records in the pupil data file.

(b) The combination of ID SCHOOL and ID TEACH variables were employed to trace duplicate records in the teacher data file.

(c) The ID SCHOOL variable was solely used to trace duplicate records in the school's data file.

All the cleaned data files were then forwarded to the IIEP for further processing.

Conclusion: Structure of the Report

The first two chapters have described the ***national educational*** context and how the study was conducted. The subsequent chapters in the report will report the following:

Chapter 3:	The baseline data for selected educational inputs into primary schools in Zimbabwe.
Chapter 4:	The conditions of schooling in Zimbabwe with respect to the Ministry's benchmark standards.
Chapter 5:	The allocation of educational inputs to primary schools in Zimbabwe: Equity considerations.
Chapter 6:	The levels of reading achievement for Grade 6 pupils in Zimbabwe.
Chapter 7:	Changes in the quality of basic education in Zimbabwe between 1991 and 1995.

Each of *Chapters 3-7* contains a series of policy suggestions. However, *Chapter 8* will present an 'Agenda for Action' which is a summary of all the policy suggestions plus an indication of which unit in the Ministry should be responsible for taking action concerning each suggestion. Each of the policy suggestions will be classified in terms of low to high cost and short-term to long-term action.

Chapter 3

What are the baseline data for selected education inputs to primary schools in Zimbabwe?

Introduction

This chapter presents some examples of baseline data for selected educational inputs to primary schools in Zimbabwe. These data are in the form of descriptive information about the pupils, teachers and schools. Wherever possible, the results of the present study will be compared with data collected in 1991 as part of the Zimbabwe Indicators of the Quality of Education study. These comparisons will enable the Ministry to assess changes between 1991 and 1995 in the primary education system.

The following questions were used in order to structure the presentation of the data analyses for this chapter.

(a) What were the characteristics of Grade 6 pupils?
(b) What were the characteristics of Grade 6 teachers?
(c) What were the teaching conditions in the schools?
(d) What teaching function mechanisms were in place to improve the quality of education?
(e) What was the general condition of school buildings?
(f) What level of access did pupils have to books?

Before presenting the data analyses which address these questions, three points need to be stressed. Firstly, it is very important to interpret each statistic in association with its sampling error. The sampling errors presented in the tables throughout this report have been labelled SE, and they were calculated in a manner that accounted for the full complexity of the multi-stage stratified sample design that was used to collect the data.

Secondly, the data set used for the analysis contained many variables that addressed different aspects of the questions listed above. In this chapter, only a few examples of these variables have been presented.

Thirdly, the percentages and means are pupil centred; that is, they are presented in terms of pupils as the units of analysis. For example, where a percentage for a variable that describes a characteristic of teachers has been presented, the percentage refers to the percentage of pupils who are in schools with the particular teacher characteristic.

What were the characteristics of Grade 6 pupils?

In *Table 3.1* data have been presented on the mean ages of the pupils, the percentage of female pupils in Grade 6, books at home, total possessions in the home, frequency of meals, and the education of parents.

Table 3.1. The means and sampling errors for selected pupil background characteristics (home related)

Regions	Age (Months)		Sex (Female)		Books at home (Number)		Possessions at home (Index)		Meals (Index)		Parent education (Index)	
	Mean	SE	%	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Harare	143.6	0.99	52.6	5.69	36.1	7.09	7.9	0.33	11.2	0.18	9.6	0.25
Manicaland	157.2	1.41	47.9	4.26	21.2	4.46	3.4	0.21	10.3	0.17	7.0	0.24
Mash Centre	157.2	1.71	47.9	5.15	17.9	4.80	4.4	0.30	10.6	0.20	6.9	0.30
Mash East	152.6	1.67	47.0	5.89	22.5	6.44	3.8	0.25	10.7	0.23	7.4	0.31
Mash West	155.6	1.91	48.1	5.81	26.3	6.74	4.4	0.34	10.5	0.25	6.7	0.34
Masvingo	155.5	1.37	54.3	4.55	26.7	5.29	3.7	0.25	9.8	0.21	7.4	0.24
Matab North	147.6	1.50	52.5	6.33	22.8	6.30	5.4	0.41	10.9	0.24	7.4	0.35
Matab South	149.5	1.24	52.3	5.30	25.3	5.79	4.2	0.21	10.1	0.24	7.3	0.26
Midlands	153.8	1.41	52.4	5.17	19.8	4.98	4.3	0.28	10.0	0.21	7.1	0.26
Zimbabwe	152.9	0.54	50.6	1.80	24.1	1.95	4.5	0.11	10.4	0.07	7.4	0.10

(a) The age of Grade 6 pupils

The minimum age of entry to Grade 1 in Zimbabwe is six years. This means that pupils who started Grade 1 aged between six and seven years should have been between 11 and 12 Years (132 and 144 months) by October 1995. The average age for the Grade 6 pupils was in fact 12.74 years (152.9 months). There are two possible reasons for the pupils being older than expected. The first is that many pupils start school after they have already turned six years old. The second reason is that a number of pupils repeat some grades so that by the time they reach Grade 6, they are already well above 11 years. Indeed, as will be seen in *Table 3.2*, nearly 40 percent of Grade 6 pupils indicated that they had repeated at least one grade. It should also be noted that in the 1991 Grade 6 survey, the average age was 148.6 months. Thus, pupils in Grade 6 in 1996 were over four months older than their peers in 1991. Grade repetition usually results in either larger classes or in more teachers and classrooms being required.

In *Table 3.1* it may also be seen that the regions with the highest urban population (Harare and Matabeleland North) had the youngest Grade 6 pupils (means of 143.6 and 147.6 years respectively). Due to the availability of pre-schools and the shorter distances urban pupils have to travel to school, urban parents tend to send their children to school at or before the legal age.

The regions that had a high percentage of the population in rural areas also had the oldest Grade 6 pupils (Manicaland, Mashonaland Central, and Mashonaland West). In these areas the pupils need to travel longer distances to school and there tends to be higher levels of grade repetition. As a result, many pupils were more than 11 years old by the time they reached Grade 6. The issue of grade repetition has been taken up in a later section of this chapter.

(b) Gender distribution

The second set of figures presented in *Table 3.1* showed that gender equity had been achieved in pupil participation rates at the primary school level in Zimbabwe. Of the total sample of Grade 6 pupils, 50.6 percent were girls. It was interesting to note that Masvingo, which has a large rural population, recorded the highest percentage of female pupils (54.3 percent). During the 1990s Masvingo has been one of the most drought-prone regions in the country and it is possible that some boys might have dropped out of school in order to engage in income-generating activities such as gold panning and working on farms, even outside Zimbabwe. Of the four regions that had fewer girls than boys, Mashonaland East recorded the lowest percentage (47.0 percent) of girls at Grade 6 level. Overall, the fluctuations in these figures among regions were small in comparison with their sampling errors and therefore it is not possible to deduce that there were inequalities at the regional level.

(c) Books in the home

A previous international study (Elley, 1992) showed that the availability of books in the home was a good predictor of reading achievement. The pupils in this study were asked to indicate the approximate number of books in their homes according to six categories: 1 = no books in the home; 2 = 1-10 books in the home; 3 = 11-50 books in the home; 4 = 51-100 books in the home; 5 = 101-200 books in the home; 6 = more than 200 books in the home. The mid-point of each value range was used to estimate the total number of books in the home. For example, the value 1 was recoded as zero books, the value 2 as five books, and so on. The value 6 was recoded (as an estimate) to 250 books.

It can be seen that the average Grade 6 pupil in Zimbabwe came from a home where there were about 24 books. As expected, the results indicated that Grade 6 pupils in the Harare region came from homes with the highest average number of books (36 books) in the country. Most of the other regions had an average number of books close to the national mean, with the exceptions of Mashonaland Central and Midlands, where the pupils had fewer books in the home.

(d) Possessions in the home

The pupils were asked which of the following 14 items were present in their homes: daily newspaper, weekly or monthly magazine, radio, TV set, video-cassette recorder (VCR), cassette player, telephone, refrigerator, car, motorcycle, bicycle, piped water, electricity and table to write on. For each item, pupils were given a score of 1 if the item existed in the home and a score of zero if the item did not. These values were then summed to form an 'Index of Possessions' which reflected the material wealth of the home. A pupil with none of the possessions at home received a score of zero and a pupil with all of the possessions at home received a score of 14.

The results in *Table 3.1* were as expected, with the more urbanized regions of Harare and Matabeleland North having the highest mean scores. In Harare, the home of the average Grade 6 pupil had almost twice as many possessions as the national mean. Among the other regions, the figures were in the range of three to four possessions.

There were interesting similarities in the Index of possessions between the present study and the 1991 study. While Harare and Matabeleland North regions have consistently remained at the top, Manicaland and Masvingo have consistently remained at the bottom, with Masvingo performing slightly better than Manicaland in the present study.

(e) Index of regular meals

It has often been pointed out (Pollitt, 1990) that poor nutrition results in a lack of concentration and perseverance in school. Regularity of meals was therefore seen as a factor likely to influence the acquisition of reading skills. The 'Index of regular meals' was a measure on a 12-point scale that assessed the number of meals that pupils reported they ate in a week. These meals were breakfast, lunch and dinner. If a pupil ate no meals at all, the score was 3, whereas if he or she had eaten all meals, the value was 12. The means and sampling errors for the 'Index of regular meals' have been presented in *Table 3.1*. The national mean was 10.4. The figures indicated that the average Grade 6 pupil in Zimbabwe missed about one to two meals a week. With the exception of Masvingo, which had a mean of 9.8, there were no major differences between the regions on the index. There were also no major differences on the index between the 1991 study and the present one.

(f) Parent education

Questions were asked in the Pupil Questionnaire about the level of education that parents had received. This information was coded as follows:

Did not go to school = 1
Completed some primary school = 2
Completed all primary school = 3
Completed some secondary school = 3
Completed all secondary school = 5
Completed some education and/or
training after secondary school = 6

The answers for each child's mother and father were summed to provide an 'Index of parent education'. In *Table 3.1*, it can be seen that the national average value was 7.4. The range of values across regions for this index was narrow. Harare was at the top with 9.6, while Mashonaland West and Central were at the bottom, with 6.7 and 6.9 respectively.

(g) Speak English at home

English is the medium of instruction in Zimbabwe's schools. However, outside school, several languages are spoken. The reading test used in this study was in English, and therefore it was expected that the extent to which pupils had an opportunity to speak English outside of the school would influence their reading performance on a test in English.

Table 3.2. The percentages, means, and sampling errors for selected pupil background characteristics (school related)

Region	Speak English		Days absent		Extra lessons		Homework		Repetition	
	%	SE	Mean	SE	%	SE	%	SE	%	SE
Harare	88.3	3.66	0.7	0.18	53.0	5.69	67.7	5.33	18.0	4.38
Manicaland	73.4	3.77	1.5	0.20	74.5	3.72	45.7	4.25	45.4	4.25
Mash Centre	68.3	4.80	1.5	0.21	53.1	5.15	53.0	5.15	42.1	5.09
Mash East	83.3	4.40	1.2	0.26	63.8	5.67	37.2	5.70	44.0	5.86
Mash West	63.8	5.59	1.6	0.37	36.5	5.60	37.4	5.62	42.4	5.74
Masvingo	81.5	3.55	2.1	0.26	58.2	4.51	36.6	4.40	46.3	4.56
Matab North	79.3	5.14	1.5	0.42	68.0	5.92	42.3	6.26	28.9	5.75
Matab South	61.0	5.18	1.2	0.21	53.7	5.29	22.9	4.46	42.0	5.24
Midlands	69.4	4.77	1.9	0.30	69.0	4.79	33.2	4.87	43.8	5.13
Zimbabwe	75.1	1.56	1.5	0.09	60.8	1.76	41.7	1.78	39.9	1.77

In *Table 3.2* it may be seen that the percentage of pupils who answered that they spoke some English at home (sometimes, often, or all of the time) was 75.1 for Zimbabwe. There was considerable variation across regions, with Harare scoring the highest (88.3 percent) and Matabeleland South the lowest (61.0 percent). Other regions which recorded more than 5 percentage points below the national average were Mashonaland West (63.8 percent), Mashonaland Central (68.3 percent) and Midlands (69.4 percent).

Policy Suggestion 3.1 The Ministry should give priority in resource allocation to Matabeleland South, Mashonaland West, Mashonaland Central, and Midlands in terms of: (a) teaching materials, and (b) teachers with a good command of English in order to compensate for the high percentage of Grade 6 pupils from homes where little English is spoken.

(h) Days absent in previous month

Absenteeism is one of the factors that is believed to affect school achievement adversely because the fewer days that school is attended the less chance pupils have to learn. The Grade 6 pupils were asked how many days they had been absent in the month before they were tested. As can be seen from *Table 3.2*, the national average number of days of absenteeism was 1.5. While absenteeism was very low in Harare (0.7 days) it was somewhat higher in Masvingo (2.1 days) and Midlands (1.9 days). The differences between Harare and these two regions deserve further investigation.

Policy Suggestion 3.2 The Ministry should investigate the causes of absenteeism particularly in Masvingo and Midlands, with a view to taking measures to redress the situation.

(i) Extra lessons

Extra tuition outside the official school timetable is beginning to 'catch on' in Zimbabwe. It was known to be prevalent in urban areas where class sizes were large and where parents could afford to pay for this service. However, surprisingly, the data in *Table 3.2* show that a majority of Zimbabwe's Grade 6 pupils are receiving extra tuition. In all of the regions, except Mashonaland West, around 50 percent to 75 percent of the pupils reported receiving extra lessons, with Manicaland recording the highest, 74.5 percent. Anecdotal evidence has suggested that it is the Grade 6 teachers who are providing this extra tuition – however, this proposition needs to be confirmed by research. Whether or not this practice is a major concern depends on the answers to the following questions: Who is providing this tuition? If it is the teachers, then should they be obtaining tax-free income for out-of-school tuition? How disadvantaged are the pupils who are unable to participate in this activity? If teachers can get extra income in this manner, then what incentives are there for them to do a sound job of covering the official curriculum within school hours?

Policy Suggestion 3.3 The Ministry should commence a research study to investigate the extra tuition industry. This study should seek to discover 'who' is providing the tuition, 'how much' is being paid by parents, and (if the teachers are involved) to what extent there is a 'conflict of interest' arising from the practice of allowing the teachers to receive financial rewards for teaching their own pupils as private clients outside of school hours.

(j) Homework

There is a lot of consistent evidence that homework helps children to learn. If the homework is given, marked, and worked through with the children there is a considerable benefit. There is some evidence to suggest that giving homework but not marking it is better than not giving it at all. The pupils were, therefore, asked how often they received homework. The possible responses were: I do not get any homework; once or twice per month; once or twice per week; and, most days of the week.

The percentages of pupils who reported that they received regular homework (that is, 'on most days of the week') have been presented in *Table 3.2*. At the national level, the percentage of pupils receiving regular homework was rather low (41.7 percent), with one region, Matabeleland South, being far below the national average. Harare was the highest at 67.7 percent. Given the importance of regular homework, the major variations in these figures across regions is a cause for concern.

Policy Suggestion 3.4 The Ministry should review national policy on homework for Grade 6 and instruct the Inspectorate to monitor the frequency of homework given at this grade level.

(k) Grade repetition

The percentages of Grade 6 pupils who had repeated at least one grade have been presented in *Table 3.2*. While the national figure was 39.9 percent, regions with large urban pupil populations such as Harare and Matabeleland North registered low repetition rates of 18 and 28.9 percent respectively. It would seem that it is the regions with large rural pupil populations that have the highest repetition rates. The amount of grade repetition shown by all of these figures is extremely disturbing because this practice goes against official policy. This is certainly an area where more research is required – especially in rural areas.

Policy Suggestion 3.5 A small study should be conducted on the practice of grade-repeating in rural areas in Mashonaland West and Central, Manicaland, and Midlands in order to identify how grade-repeating is practised and to suggest ways of decreasing it.

What were the characteristics of Grade 6 teachers?

Several important characteristics of teachers were also measured. These concerned their age, sex, academic and professional qualifications, experience, and the number of in-service courses attended. The results have been presented in *Table 3.3*.

(a) Age of teachers

From *Table 3.3* it can be seen that there was little variation between regions, with the average Grade 6 pupil having a teacher aged 31.9 years. The average ages ranged from 29.5 in Mashonaland Central to 36.3 in Harare. The teaching force at Grade 6 level could therefore be described as being quite young.

Table 3.3. The means, percentages, and sampling errors for selected teacher background characteristics

Region	Age (Years)		Sex (Female)		Academic education (Years)		Teacher training (Years)		Teacher experience (Years)		In-service courses (Number)	
	Mean	SE	%	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Harare	36.3	1.34	52.4	8.92	13.2	0.33	3.3	0.16	12.2	1.24	6.2	1.49
Manicaland	31.9	1.43	16.6	7.82	11.7	0.55	1.9	0.33	9.0	1.62	4.5	1.50
Mash Centre	29.5	1.12	12.7	5.24	12.2	0.51	2.5	0.32	6.6	0.91	1.0	0.36
Mash East	30.9	1.75	14.3	7.28	12.2	0.29	2.6	0.33	6.9	1.76	2.6	1.26
Mash West	30.3	1.63	21.2	8.01	12.1	0.81	2.9	0.26	6.6	1.12	1.8	0.95
Masvingo	31.7	1.22	12.3	6.17	11.9	0.36	3.2	0.26	7.9	1.17	3.7	1.64
Matab North	30.8	1.62	44.0	12.37	11.7	0.44	2.5	0.40	6.8	1.38	0.5	0.31
Matab South	32.7	2.04	17.5	8.23	13.0	0.67	2.9	0.35	8.6	2.30	2.9	1.33
Midlands	33.1	1.92	13.6	6.61	11.8	0.31	2.4	0.28	10.4	1.93	4.7	1.40
Zimbabwe	31.9	0.56	21.8	2.82	12.1	0.16	2.6	0.11	8.4	0.54	3.3	0.47

(b) Sex of teachers

Just over one fifth (21.8 percent) of the pupils in Grade 6 had female teachers, compared with 52.4 percent and 44.0 percent for Harare and Matabeleland North, respectively. The higher percentages of female teachers in these two regions is probably attributable to the fact that married women often move to join their husbands in urban centres. The Harare region is mainly urban while Matabeleland North includes the city of Bulawayo, which is the second largest city in Zimbabwe. Apart from these two regions, the percentages of female Grade 6 teachers in the other seven regions could be described as low. These low percentages of female teachers in most of the regions were probably a result of the situation that teaching in Zimbabwe, particularly from upper-primary level upwards, has tended to be male dominated.

(c) Years of academic education

Table 3.3 showed that the average Grade 6 pupil was taught by a teacher who had had 12.1 years of academic education. The small amount of variation across regions for this variable was no surprise as all teachers are expected to have completed at least 11 years of schooling. The 12 or more years for five of the regions can be explained by the fact that older teachers had eight years of primary and four of secondary education. A further reason could be that a few of the teachers have 'A' levels and, in some cases, university degrees.

(d) Years of teacher training

All primary-school teachers in Zimbabwe are now expected to have two or three years of teacher training. From *Table 3.3* it can be seen that, on average, Grade 6 pupils in Zimbabwe were taught by a teacher who had had 2.6 years of teacher training. The low average for Manicaland (1.9) could be a result of the high percentage of temporary teachers taking classes at this level. The figures showed that Harare and Masvingo had Grade 6 teachers with an average of at least three years of teacher training. There was little variation among regions on this variable. However, the situation in Manicaland needs further investigation.

(e) Years of teaching experience

Table 3.3 showed that, on average, Grade 6 teachers had taught for 8.4 years. This was consistent with the average age of Grade 6 teachers, which was only 31.9 years. The most experienced teachers were in Harare (12.2 years) and Midlands (10.4 years) while the least experienced teachers were in Mashonaland Central and West – both with an average of 6.6 years. In comparison with the sampling errors, the magnitudes of the differences in teacher experience were quite large across regions. This is an issue that certainly needs to be taken into account when allocating both trained and untrained teachers to regions.

Policy Suggestion 3.6 The Ministry should review the allocation of trained and untrained teachers among regions in order to bring about greater equity.

(f) Number of in-service courses attended

Table 3.3 showed that, on average, Grade 6 pupils were taught by teachers who had attended 3.3 in-service courses. While Grade 6 teachers in Harare and Midlands had attended an average of 6.2 and 4.7 in-service courses, respectively, those in Matabeleland North had attended only an average of 0.5 courses. Other regions that registered a low number of courses attended were Mashonaland Central (1.0) and West (1.8). These figures show a major imbalance with respect to teacher access to further training opportunities across the regions. The high figure for Harare can perhaps be partly explained by the teachers being more experienced and therefore in the system longer. However, this does not explain the extremely low figure for Matabeleland North and some drastic action is required to attend to in-service training provision in this region.

Policy Suggestion 3.7 The Ministry should expand staff development policies that oblige all teachers in regions other than Harare to attend well-structured regular in-service courses. The highest priority in this area should be given to the Matabeleland North region.

What were the teaching conditions in primary schools?

In all countries that participated in SACMEQ's initial project, there has been a great deal of interest in the resources made available to teachers for their teaching and the availability of basic supplies of classroom furniture. In order to assess these two important dimensions, the Grade 6 teachers were given a checklist of items which they used to indicate the availability of a range of classroom resources. The checklist contained eight items covering teaching materials and five items covering classroom furniture. These items, and the percentages of Grade 6 pupils in classrooms with each of these items, have been listed in *Table 3.4*.

Table 3.4. Percentage of Grade 6 pupils in classrooms with selected teaching materials and classroom furniture

Item	Percentage with item	SE
Teaching materials		
Chalk	92.8	1.86
A wall chart of any kind	89.0	2.25
A map of Zimbabwe	76.6	3.05
A map of Africa	62.7	3.48
A world map	49.9	3.60
A classroom library or book corner	46.6	3.59
An atlas	83.6	2.67
An English dictionary	73.1	3.19
Classroom furniture		
A usable chalk board	92.3	1.92
A cupboard	48.6	3.60
One or more bookshelves	39.3	3.52
A teacher table	79.5	2.91
A teacher chair	79.2	2.92

(a) Teaching materials and classroom furniture

Several surprising results emerged from the analyses associated with teaching materials and classroom furniture. First, it was expected that certain fundamental resources (such as an atlas, an English dictionary, and a bookshelf) would be found in *all* Grade 6 classrooms. This was not the case, with 16.4 percent of pupils in classrooms with *no* atlas, 26.9 percent with *no* English dictionary, and a surprising 60.7 percent with *no* bookshelves. More than 20 percent of the pupils were in classrooms with neither a teacher table nor a teacher chair. Surprisingly, only two-thirds of Grade 6 pupils were in classrooms that had a map of Africa.

Secondly, only 46.6 percent of the Grade 6 pupils were in classrooms that had a classroom library or book corner. This was a most disturbing finding, because a number of research studies have shown that increasing pupil access to books by making them 'closer' to ordinary daily classroom activities is a key factor in improving pupil reading-literacy levels (Postlethwaite and Ross, 1992).

The teacher checklist responses concerning each set of resources were combined to form two scales: a Teaching material index (constructed by adding up the number of teaching material items that each teacher reported out of a total of eight items) and a Classroom furniture index (constructed by adding up the number of items of classroom furniture that each teacher reported out of a total of five items). The mean scores for these indices across districts, and for Zimbabwe overall, have been reported in *Table 3.5*.

Table 3.5. Means and sampling errors for the Index of teaching materials and the Index of classroom furniture

Region	Teaching materials index		Classroom furniture index	
	Mean	SE	Mean	SE
Harare	6.6	0.31	4.3	0.20
Manicaland	5.6	0.44	3.4	0.29
Mash Centre	4.9	0.53	2.8	0.32
Mash East	5.8	0.50	3.1	0.32
Mash West	5.4	0.49	3.0	0.35
Masvingo	5.8	0.40	3.6	0.23
Matab North	5.3	0.56	3.3	0.42
Matab South	6.4	0.31	3.6	0.23
Midlands	6.0	0.36	3.3	0.23
Zimbabwe	5.7	0.15	3.4	0.10

The national average for the teaching materials index was 5.7. There was little variation among regions on this variable though Mashonaland Central registered the lowest value of 4.9 items. The index of classroom furniture was 3.4 for the national average, with Harare having 4.3 and Mashonaland Central 2.8.

Policy Suggestion 3.8 The Ministry should ask the Regional Offices to carry out an audit in order to identify all Grade 6 classrooms without basic teaching materials and classroom furniture, with a view to redressing the situation. A priority list of schools in greatest need should also be prepared.

(b) Pupils' books and materials in the classrooms

Without a textbook, an exercise book, a notebook, a pencil or a ballpoint pen, and so on, it is very difficult for pupils to learn. Information has been presented in *Tables 3.6 and 3.7* concerning the readers/English textbooks the pupils had in the classroom, and other materials that they had, such as exercise books, notebooks, pencils, rulers, pencil erasers, and a pen. Note that the percentages in these tables report the *lack* of an item.

From the results listed in *Table 3.6*, it was evident that in Zimbabwe as a whole, only around 20 percent of Grade 6 pupils had their own English reader or textbook. Around 80 percent of the pupils either did not have this item or they shared it with other pupils or with the teacher. The problem was most acute in Matabeleland South and Mashonaland Central, where only 11.6 percent and 13.9 percent, respectively, of the pupils reported having their own readers or textbooks. This is clearly a serious state of affairs.

An exercise book was defined as 'a book for writing that is marked by the teacher' and a notebook as 'a book for writing that is not marked by the teacher'. There were wide variations among regions regarding the shortage of exercise books. Nationally, 11.9 percent of Grade 6 pupils reported a lack of exercise books, while Manicaland region was worst hit, with 26.0 percent of pupils reporting lack of exercise books. The Midlands region had the lowest percentage (2.4 percent) of pupils reporting lack of this item.

Close to half the pupils (45.4 percent) did not have notebooks. Harare region fared better in this respect, with only 24.8 percent without notebooks, while Manicaland was again hard hit, with 56.4 percent reporting a lack of notebooks. The results in *Table 3.7* also indicated that the situation regarding the lack of pencils, rulers, erasers and pens also needed attention – particularly in Manicaland and Mashonaland Central. Rulers are essential at this level of schooling and 43.3 percent of the Grade 6 pupils did not have them.

Policy Suggestion 3.9 There is urgent need for the Ministry to investigate the reasons for the high percentages of Grade 6 pupils who reported that they lacked readers/textbooks, pencils, rulers, erasers and pens.

Table 3.6. Percentage of pupils reporting *lack* of basic learning materials and equipment (reader/textbook, exercise book, notebook)

Region	Percentage of pupils reporting lack of items					
	Reader/textbook		Exercise book		Notebook	
	%	SE	%	SE	%	SE
Harare	65.4	5.42	10.6	3.51	24.8	4.92
Manicaland	82.4	3.25	26.0	3.74	56.4	4.23
Mash Centre	86.1	3.56	14.5	3.63	38.9	5.03
Mash East	66.0	5.59	4.1	2.34	39.8	5.78
Mash West	82.1	4.45	7.7	3.09	53.8	5.79
Masvingo	82.9	3.44	17.6	3.48	47.5	4.56
Matab North	81.2	4.95	10.0	3.81	41.5	6.25
Matab South	88.4	3.40	6.3	2.59	39.5	5.19
Midlands	84.6	3.74	2.4	1.59	53.0	5.16
Zimbabwe	79.7	1.45	11.9	1.17	45.4	1.80

Note: The values reported for Reader and Textbook refer to the total percentage of pupils who (i) did not have the item mentioned, (ii) shared the item, or (iii) only the teacher had the item.

Table 3.7. Percentage of pupils reporting *lack* of basic learning materials and equipment (pencil, ruler, eraser, pen)

Region	Percentage of pupils reporting lack of items							
	Pencil		Ruler		Eraser		Pen	
	%	SE	%	SE	%	SE	%	SE
Harare	17.2	4.30	18.8	4.45	45.7	5.68	10.0	3.42
Manicaland	40.0	4.18	50.2	4.26	68.0	3.98	36.1	4.10
Mash Centre	49.3	5.15	51.5	5.15	67.8	4.82	30.9	4.77
Mash East	23.2	4.98	41.9	5.82	53.1	5.89	9.7	3.50
Mash West	36.4	5.59	49.7	5.81	68.7	5.39	19.8	4.63
Masvingo	34.2	4.34	50.0	4.57	64.9	4.36	19.7	3.64
Matab North	24.9	5.49	38.7	6.18	60.4	6.20	12.1	4.14
Matab South	22.2	4.41	36.2	5.10	53.6	5.29	9.2	3.07
Midlands	36.2	4.97	44.9	5.15	75.0	4.48	18.0	3.98
Zimbabwe	32.1	1.68	43.3	1.79	63.0	1.74	19.3	1.42

What aspects of the teaching function designed to improve the quality of education were in place?

A number of variables were examined with respect to this important aspect of the educational environment. Most of them referred to teaching practices that were known from previous research to influence pupil learning, or with the teachers' perceptions of the inspectors and factors that were related to job satisfaction. Four issues were examined: frequency of testing pupils, regularity of meetings with parents, perceptions of the professional performance of the Inspectorate, and perceptions of what teachers considered to be important with respect to job satisfaction. The results of these analyses have been presented in *Tables 3.8 to 3.12*.

(a) Frequency of testing

The most significant results for 'frequency of testing' have been given in the last two columns of percentages in *Table 3.8*. Combining the figures in these two columns, it can be seen that 86.3 percent of the Grade 6 pupils had teachers who stated that they gave their pupils a written test in reading at least two or three times per month or more frequently. The extremes of the combined two categories were 73.3 percent and 95.6 percent for the Midlands and Mashonaland Central, respectively. On the whole, it would appear that the pattern of the frequency of testing Grade 6 pupils was relatively high but also somewhat uneven across regions.

Policy Suggestion 3.10 The Ministry should establish a common policy on the regularity of giving written tests to Grade 6 pupils so that there is greater uniformity across regions in this important area.

(b) Meeting parents

Postlethwaite and Ross (1992) showed that, in many countries, the more that the school head and teachers had contact with parents, the more effective the school was in promoting the reading achievement of pupils. That is, schools where school heads and teachers had contact with parents scored better than could be expected after taking due account of the socio-economic background of their pupils. The results concerning the frequency of teacher meetings for Grade 6 pupils in Zimbabwe have been presented in *Table 3.9*. The national mode for teachers meeting parents was once per term (46.0 percent). It is, however, worrying to note that 41.4 percent (17.9 percent + 23.5 percent) of teachers met parents either only once a year or never. The situation in Manicaland gave cause for concern, with 52.7 percent of Grade 6 pupils having teachers who met the parents either once per year or never. It should be noted here that teachers often need to be given training in 'how to meet with parents'. This area of teacher development could form the central theme of a teacher in-service training programme.

Policy Suggestion 3.11 School heads should be encouraged to ensure that their Grade 6 teachers meet with parents on a regular basis (not less than once per term) to discuss the progress of pupils, and the Ministry should examine ways in which teachers may be given in-service training in 'how to meet with parents'.

Table 3.8. The percentages and sampling errors for the frequency of giving a written test to pupils

Region	Frequency of testing											
	No test		Once a year		Once a term		Two or three times per term		Two or three times per month		Once or more per week	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Harare	0.0	0.00	0.0	0.00	10.1	4.98	7.7	4.41	16.2	6.09	66.0	7.83
Manicaland	2.9	3.54	0.0	0.00	5.0	4.60	4.7	4.47	12.0	6.86	75.3	9.10
Mash Centre	0.0	0.00	0.0	0.00	0.0	0.00	4.4	4.35	25.0	9.17	70.6	9.65
Mash East	0.0	0.00	0.0	0.00	0.0	0.00	4.3	4.39	20.0	8.65	57.7	10.69
Mash West	4.2	4.29	0.0	0.00	5.4	4.83	6.3	5.19	21.3	8.75	62.8	10.33
Masvingo	0.0	0.00	0.0	0.00	0.0	0.00	12.0	6.53	18.1	7.74	69.9	9.22
Matab North	6.7	6.18	0.0	0.00	1.3	2.80	7.9	6.67	27.8	11.08	56.3	12.26
Matab South	0.0	0.00	0.0	0.00	3.7	4.60	3.2	4.29	12.6	8.09	80.5	9.66
Midlands	5.8	4.57	2.2	2.87	5.0	4.26	13.7	6.73	7.1	5.03	66.2	9.26
Zimbabwe	2.4	1.10	0.3	0.39	3.4	1.31	7.6	1.91	17.2	2.72	69.1	3.33

Table 3.9. Percentages and sampling errors for frequency of teacher meetings with parents

Region	Never		Once per year		Once per term		Once (+) per month	
	%	SE	%	SE	%	SE	%	SE
Harare	1.0	1.65	36.1	7.94	62.9	7.99	0.0	0.00
Manicaland	27.6	9.44	25.1	9.15	31.0	9.76	16.2	7.78
Mash Centre	8.3	5.84	19.7	8.43	65.3	10.08	6.7	5.28
Mash East	27.5	9.66	6.6	5.37	48.0	10.81	17.9	8.29
Mash West	17.4	8.10	22.6	8.94	43.8	10.60	16.2	7.88
Masvingo	24.5	8.64	12.2	6.58	43.2	9.96	20.1	8.05
Matab North	13.3	8.40	32.1	11.54	54.5	12.31	0.0	0.00
Matab South	13.6	8.35	32.7	11.43	47.0	12.16	6.7	6.09
Midlands	14.6	6.91	30.5	9.01	36.6	9.43	18.3	7.57
Zimbabwe	17.9	2.76	23.5	3.05	46.0	3.59	12.6	2.39

(c) Teachers' perception of the role of inspectors

The changing role of the Inspectorate has recently become an important issue in many education systems. The teachers in this study were given an opportunity to describe their perceptions of the impact of the inspectors on their work. Their responses have been tabulated in *Table 3.10*.

The teachers' responses were tabulated under three broad headings that described the main dimensions of the work carried out by inspectors: 'Pedagogical role', 'Critical versus advisory role', and 'Professional development role'. The results showed that teachers perceived inspectors as performing their pedagogical role quite well. The following three areas were ranked very highly in this category: suggest improved teaching methods (96.2 percent), bring new ideas (95.0 percent), and clarify educational objectives (91.4 percent). In the second category, it was clear that teachers perceived inspectors as coming to advise (98.0 percent).

Table 3.10. Teachers' perceptions of the role of the Inspectorate

Aspect of the role	Percentage of teachers agreeing	
	%	SE
Pedagogical role		
Bring new ideas	95.0	1.57
Clarify educational objectives	91.4	2.02
Recommend new teaching materials	86.3	2.48
Contribution to classroom teaching	85.7	2.52
Explain curriculum	81.3	2.81
Suggest improved teaching methods	96.2	1.38
Critical v. advisory role		
Comes to criticize	10.7	2.23
Comes to advise	98.0	1.01
Professional development role		
Encourage professional contacts with other teachers	90.5	2.11
Provide information for teacher self-development	79.0	2.93

Teachers were also satisfied that the inspectors were contributing to their opportunities for professional development. This included encouraging professional contacts with other teachers (90.5 percent) and providing information for teacher self-development (79.0 percent). On the whole, the Grade 6 teachers perceived inspectors as performing their work quite well in the three major areas of their operations.

(d) Sources of teacher satisfaction

The motivation of teachers is a critical issue for any programme designed to improve the quality of education. In the SACMEQ countries there has been considerable interest in this issue – especially concerning the factors that contribute most to job satisfaction. It is widely acknowledged that satisfied teachers will tend to work harder for the benefit of the pupils, and are less likely to leave the teaching profession.

Teachers in this study were given an opportunity to respond to 13 possible reasons for their satisfaction with their jobs. The 13 reasons have been grouped under five headings in *Table 3.11*: living conditions, school facilities/equipment, relationships with others, career advancement, and educational outcomes of pupils.

Table 3.11. Percentage and sampling errors for sources of teacher satisfaction

Source	Percentage of teachers indicating reason as 'very important'	
	%	SE
Living conditions		
Travel distance to school	82.9	2.71
Availability of teacher housing	94.0	1.71
Quality of teacher housing	85.2	2.56
School facilities/equipment		
Quality of school buildings	72.7	3.21
Quality of classroom furniture	77.4	3.01
Quality of classroom supplies	92.8	1.86
Relationships with others		
Quality of school management and administration	96.5	1.32
Amicable working relations with other teachers	86.7	2.45
Good relations with community	84.1	2.63
Career advancement		
Expanded opportunities for promotion	69.1	3.33
Opportunities for professional development	91.7	1.99
Level of teacher salary	88.3	2.32
Educational outcomes of pupils		
Seeing pupils learn	92.4	1.91

Under 'Living conditions', the availability of teacher housing (94.0 percent) was seen as a very important source of teacher satisfaction. This is not surprising as the standard of teacher housing provided by various responsible authorities is far from satisfactory. Under 'School facilities/equipment' the quality of school buildings and classroom furniture was perceived as quite important; however, the teachers indicated that the quality of classroom supplies was paramount (92.8 percent).

In the area of 'Relationships with others', the teachers singled out the quality of school management and administration as being the most important factor for job satisfaction. In the area of 'Career advancement', the teachers identified opportunities for professional development as being the most important factor for job satisfaction. In the fifth area, 'Educational outcomes for pupils', a high percentage (92.4 percent) of the teachers indicated that they derived satisfaction from seeing pupils learn.

It is interesting to note that the issue of expanded opportunities for promotion received the lowest percentage of 69.1 percent. The teachers were probably aware that they cannot all be promoted, and therefore they gave higher priority to professional development and an adequate salary.

When the teachers had completed the checklist of 13 reasons for job satisfaction, they were asked to select the *one* reason that was the 'most important' for them. The results of this selection have been listed in *Table 3.12*. In this table, the percentages of teachers selecting the five reasons with the highest ratings have been presented. Also in this table the region in which each of these reasons had the highest rating has been listed.

Table 3.12. Percentage of sampling errors for five reasons rated as 'Most important' in a list of 13 reasons dealing with teacher job satisfaction

Five most important reasons	Percentage rating as most important		Region with highest frequency
	%	SE	
Level of teacher salary	32.5	3.37	Mash West (62.8%)
Seeing my pupils learn	17.3	2.72	Mash Centre (35.8%)
Opportunities for professional development	17.2	2.72	Matab North (30.9%)
Quality of classroom supplies	14.6	13.7	Midlands (24.5%)
Quality of school management	13.7	2.48	Mash Centre (37.0%)

It is clear from the results in *Table 3.12* that 'teacher salary' was the factor that was most important to the job satisfaction of Grade 6 teachers in Zimbabwe. The other two important factors that received similar ratings were 'seeing my pupils learn' and 'opportunities for professional development'. The results here indicated that, beyond salary concerns, Grade 6 teachers tended to have the interests of their pupils at heart, along with issues related to improving in their profession and the smooth functioning of their schools.

Some of the regional percentages in *Table 3.12* were quite different from the overall percentages and suggested that consultations with teachers on the issue of job satisfaction required a regional focus.

Policy Suggestion 3.12 The Ministry should meet with teachers' associations to discuss the responses of teachers concerning job satisfaction in order to identify strategies for addressing their concerns – especially those related to salary, professional development, and the functioning of schools.

What was the general condition of school buildings?

The assessment of the general condition of school buildings in Zimbabwe was obtained by examining the responses to questions asked of school heads concerning the state of the buildings (from being in order, to needing different amounts of repair, to needing to be completely rebuilt). Another indicator of the general condition of the buildings was the amount of space per pupil in square metres. Finally, the provision of toilets was a matter of general concern in many SACMEQ countries. The teachers' responses concerning these three areas have been listed in *Table 3.13*.

Table 3.13. The means and sampling errors for selected school building characteristics

Region	Repair status		Classroom space		Toilet provision	
	Mean	SE	Mean	SE	Mean	SE
Harare	0.0	0.00	1.6	0.08	34.9	3.22
Manicaland	45.0	11.40	1.5	0.13	29.0	4.13
Mash Centre	46.7	13.33	1.5	0.21	29.6	2.80
Mash East	20.0	10.67	1.6	0.11	27.9	3.19
Mash West	53.3	13.33	1.3	0.09	31.2	3.13
Masvingo	55.0	11.40	1.4	0.08	32.0	2.83
Matab North	40.0	13.07	1.3	0.08	39.7	6.17
Matab South	53.3	13.32	1.4	0.11	31.3	3.03
Midlands	50.0	11.46	1.3	0.08	30.0	2.26
Zimbabwe	40.8	3.84	1.4	0.04	31.6	1.16

(a) Repair status

The school head was asked to state the condition of his or her school building on a five-point scale with the following values: 5 = in good condition; 4 = some classrooms need minor repairs; 3 = most or all classrooms need minor repairs; 2 = some classrooms need major repairs, and 1 = school needs complete rebuilding. This variable was recoded so that it was possible to calculate the percentage of Grade 6 pupils in schools where the school heads perceived that these schools were either 'in need of major repair' or 'needed complete rebuilding'. These percentages have been listed in *Table 3.13*.

The analysis revealed that 40.8 percent of Grade 6 pupils in Zimbabwe were in schools which were perceived by the school heads to be in need of major repair or rebuilding. This was an alarming figure. In contrast, in Harare, all the schools were in good condition. There was little variation among the rest of the regions, with most regions recording figures of around 50 percent.

> **Policy Suggestion 3.13** The Ministry should undertake a survey to identify primary schools that need major repairs or complete rebuilding, in order to safeguard the lives of children and prevent damage to school property contained in the schools.

(b) Classroom space (square metres per pupil)

The value for this variable was obtained by dividing the whole of the internal area of all classrooms by the total number of pupils enrolled in the largest school shift. The national average for classroom space was 1.4 square metres per pupil. This is 0.1 square metres less than the national norm of 1.5 square metres. The 1991 Zimbabwe study had a national average of 1.9 square metres per pupil. This result seems to suggest that there has been increased pressure in classroom space. There was little variation among regions, although Harare and Mashonaland East had slightly more space than the other regions.

(c) Toilet provision

At the national level, Grade 6 pupils attended schools where there were 31.6 pupils for one toilet. The ratio varied from 27.9 in Mashonaland East to 39.7 in Matabeleland North. These ratios are far too high, as the acceptable ratios are 1:20 and 1:25 for water-borne and blair toilets respectively.

Policy Suggestion 3.14 The Ministries of Health and Education should identify schools where toilet facilities do not meet the required standards and then take action to rectify the problem.

(d) General school facilities

From *Table 3.14*, it was apparent that many Grade 6 pupils were in schools that had inadequate school buildings. The facilities that were widely available were the school head's office and the storeroom. Up to 41.8 percent of pupils were in schools that had no school library and only 16.1 percent of pupils were in schools with a school hall.

School grounds facilities were adequate in terms of coverage, however, general services and equipment were poorly provided for. While a duplicator and a radio are considered basic necessities at any school, only 24.5 and 39.5 percent, respectively, of Grade 6 students were in schools having these items. Without duplicators, teachers cannot produce their own lesson materials for the pupils, and without a radio in the school the teachers cannot make use of school radio programmes. Other items of modern technology such as photocopiers and computers were rare in the vast majority of schools.

Policy Suggestion 3.15 The Ministry should review and prioritize those poorly provided facilities (such as duplicators, radios, etc.), the lack of which has a direct impact upon teaching functions, and then establish a medium-term strategy for improving provision to schools.

What level of access did pupils have to books?

Elley (1992) showed that the more that children were able to read books, and the more that they had books available for them to read, the higher was their achievement in reading literacy. In this study, several questions were asked about the availability of a classroom library, school library, and arrangements for allowing pupils to borrow books from these libraries. The responses to the questions have been summarized in *Table 3.15*.

Table 3.14. Percentages and sampling errors for pupils in schools with selected facilities

Facility	Percentage with facility	
	%	SE
School buildings		
School library	58.2	3.85
School hall	16.1	2.87
Staff-room	30.3	3.59
School heads' office	85.4	2.76
School secretary's office	22.7	3.27
Store-room	84.7	2.81
Cafeteria	12.3	2.56
School grounds		
Sports area	92.5	2.06
Play-ground	96.7	1.39
School garden	87.3	2.60
General services		
Piped water	37.9	3.79
Well or borehole	71.1	3.54
Electricity	23.6	3.32
Telephone	33.6	3.69
Equipment		
Fax machine	8.3	2.15
Typewriter	26.8	3.46
Duplicator	24.5	3.36
Radio	39.5	3.82
Tape recorder	11.0	2.44
Overhead projector	2.8	1.29
TV	1.4	0.92
Film projector	7.5	2.06
Video-cassette recorder	2.0	1.09
Photocopier	0.6	0.60
Computer	2.0	1.09

(a) Classroom Library

An international study of reading literacy (Elley, 1992) involving 32 systems of education, showed that high levels of reading literacy were associated with the availability of *classroom* libraries from which pupils could borrow books. Grade 6 teachers in this study were asked about the number of books in the classroom library. If there was no classroom library, the teacher was directed to record zero books. In the first column of *Table 3.15* the percentages of Grade 6 pupils in classrooms with a library have been presented. Nationally, only 46.6 percent of Grade 6 pupils were in classrooms with a classroom library. While Masvingo (63.4 percent) and Mashonaland East (61.6 percent) reported having the highest percentages of Grade 6 pupils with classroom libraries, it was Mashonaland West (16.9 percent), Matabeleland North (36.4 percent) and Manicaland (37.7 percent) that had the lowest percentages. The situation in Mashonaland West is rather worrying.

Table 3.15. The percentages and sampling errors for pupils' level of access to books

Region	Library availability				Pupils permitted to borrow books	
	Classroom		School			
	%	SE	%	SE	%	SE
Harare	54.4	8.24	60.0	13.08	40.0	13.08
Manicaland	37.7	10.23	50.0	11.46	25.0	9.92
Mash Centre	48.0	10.58	40.0	13.09	13.3	9.08
Mash East	61.6	10.52	80.0	10.67	66.7	12.58
Mash West	16.9	8.01	66.7	12.60	46.7	13.33
Masvingo	63.4	9.68	50.0	11.45	40.0	11.22
Matab North	36.4	11.90	40.0	13.07	33.3	12.57
Matab South	44.6	12.11	80.0	10.68	53.3	13.32
Midlands	51.0	9.78	65.0	10.93	20.0	9.17
Zimbabwe	46.6	3.59	58.2	3.85	36.7	3.76

(b) School library

More than half of the Grade 6 pupils (58.2 percent) were in schools that had a school library. The situation regarding this facility was most favourable in Mashonaland East (80.0 percent) and Matabeleland South (80.0 percent). There was little variation among regions, with the exception of the above-mentioned two regions and Mashonaland Central (40.0 percent) and Matabeleland North (40.0 percent). The situation in the latter region needs closer monitoring as it had the lowest percentage of Grade 6 pupils with access to classroom and school library (combined).

Policy Suggestion 3.16 The Ministry should launch a campaign to encourage schools to have library books available for borrowing by all pupils. This may be in the form of a special provision of library books to all schools that need them, or it may be in the form of a mobile library system for lending books to schools.

(c) Borrowing books

Schools may have classroom and school libraries but the pupils may not be allowed to borrow books to take them home to read. Thus a question was asked of the school heads about this point. It is evident from *Table 3.15* that whereas 58.2 percent of Grade 6 pupils were in schools with school libraries, only 36.7 percent of the pupils were allowed to borrow books. Up to 80.0 percent of Grade 6 pupils in Mashonaland East and Matabeleland South were in schools with school libraries, while only 40.0 percent of the pupils in Mashonaland Central and Matabeleland North had this facility.

Policy Suggestion 3.17 The Inspectorate should be asked to ensure that if schools have either classroom or school libraries, then the pupils should be permitted to borrow books to read at home.

Conclusion

This chapter was designed to provide the reader with some examples of baseline data for inputs to primary schools in Zimbabwe. The examples covered the characteristics of Grade 6 pupils and teachers, the general condition of school buildings, and pupil access to books. The data were described as 'baseline' because they covered the essential features of the school system, and because they provided an initial cross-sectional description at one point of time. Educational planners in Zimbabwe will be able to use these data to monitor changes in the evolution of the primary education system and to compare with future data collections to assess the degree of change that has occurred in important education indicators over time.

Zimbabwe had a similar Grade 6 data collection in 1991. Not too many of these data were comparable because of different measures having been used on the two different occasions. Nevertheless, some measures were comparable and a compendium of 1991 and 1995 data will be presented in a later chapter.

In summary, the results presented in this chapter indicate that there are many problems in the primary school system. There are schools without the basic amenities, equipment and supplies. There are many instances of pupils not having their own textbooks and exercise books. There are some schools with still quite a few unqualified teachers. How can pupils be expected to learn under these conditions?

Zimbabwe, as was seen in *Chapter 1*, made impressive progress after independence in increasing the enrolments in school so that the requirements of 'Education for All' have been more or less achieved. But, the conditions in the schools outside of the capital, Harare, leave much to be desired if the children now enrolled are to learn and not just be listed on a register as attending school.

Chapter 4

How do the conditions of schooling in Zimbabwe compare with the Ministry's own benchmark standards?

Introduction

In this chapter the discussion of schooling conditions has been extended beyond the descriptive account given in the previous chapter, to a comparative analysis in which these conditions are compared with reference to benchmark standards accepted for use by the Ministry of Education. This comparative analysis permitted judgements to be made about key aspects of the educational environment in relation to the minimal levels of provision that the Ministry acknowledged as forming essential preconditions for successful learning. In those situations where no official benchmarks had been adopted by the Ministry, the approach taken was to apply standards that had been agreed to as being 'reasonable for the proper functioning of primary schools' by the SACMEQ national research co-ordinators.

In Zimbabwe, the Ministry pays per-capita grants to each school to purchase learning and teaching materials and equipment. The amount per pupil is not adequate to cover all of the basic requirements, so that schools have to supplement this grant through levying parents. This situation puts the Ministry in a weak position regarding the enforcement of what each pupil should have as basic learning materials. The schools, therefore, are in various states of deprivation of the required material and, under present arrangements, there is little the Ministry can do about this.

In conducting this study, it was not an easy task to locate (in one document) the benchmark standards that had been agreed to by the Ministry. Some of these standards were established a long time ago, and, for some important aspects of the conditions of schooling, no published information appeared to exist. There is therefore a need for the Ministry to re-visit existing benchmark standards in order to check their relevance for the 1990s, and also to remedy any gaps in these standards.

Policy Suggestion 4.1 The Ministry should review, and where necessary establish (and publish in one document), benchmark standards for the educational environment that are deemed to be 'reasonable for the proper functioning of primary schools'.

Basic organizational features of schooling

The basic organizational features of schooling have always been of great interest to educational planners. These features must be managed properly in order to optimize the quality of the educational environment for all pupils. In the SACMEQ project, questions were asked of school heads about school total enrolment, class size, the availability of classroom space for pupils, and staffing ratios. The results of the analysis of these questions, and their linkages to the standards specified by the Ministry, have been presented below.

(a) Total school enrolment (school size)

The benchmark for the maximum size of a school in Zimbabwe is a four-stream entry school with 40 pupils per class for seven grades, making a total of 1,120 pupils. This decision was made on the assumption that any school that was larger than this would be difficult to manage for a school head. In the first column of *Table 4.1*, the percentages of Grade 6 pupils attending schools that satisfied the total enrolment benchmark of 1,120 pupils have been listed.

For Zimbabwe overall, 81.4 percent of Grade 6 pupils were in schools that satisfied the benchmark. There was a large variation between the Harare region and other regions. In Harare, only 26.7 percent of Grade 6 pupils were in schools that met the benchmark, while in the other regions the percentages ranged from 66.7 percent for Matabeleland North, to 100 percent for Matabeleland South. These results were not surprising as Harare and Bulawayo (in Matabeleland North) not only have schools with the largest enrolments, but they also have the largest classroom shortage. These two regions, particularly Harare, need urgent attention with regard to school size.

Policy Suggestion 4.2 The Ministry should examine the situation concerning large schools in Harare and Matabeleland North, with a view to encouraging the local authorities to construct additional primary schools in these areas.

(b) Class size

The Ministry's norm for class size was that 'no more than 40 pupils should be in any one class'. The results presented in *Table 4.1* showed that only 43.9 percent of Grade 6 pupils were in classes that satisfied the Ministry's class-size benchmark. In other words, 56.1 percent of Grade 6 pupils in the country were in 'overcrowded' classes. The most seriously affected regions were Harare (17.8 percent) and Masvingo (31.8 percent).

It was possible that, in some schools, the overcrowded classes situation may have been due to school heads combining Grade 6 classes in order for the school head and possibly the deputy head to be non-teaching. This hypothesis deserves investigation.

Policy Suggestion 4.3 The Ministry should urgently investigate the situation regarding overcrowded Grade 6 classes in all regions.

(c) Classroom space

In Zimbabwe, the Ministry benchmark for classroom space was 1.5 square metres per pupil. The number of square metres per pupil was calculated by dividing the total square metres available for classroom space in the school by the total school enrolment. In cases where the school had two shifts, only the largest shift attending the school was used for the calculation.

The percentage of Grade 6 pupils attending schools that satisfied the Ministry's classroom space benchmark for Zimbabwe overall was 36.5 percent. Masvingo (25.0 percent) and Matabeleland North (26.7 percent) had particularly low percentages, while Harare had the highest percentage of 60.0 percent. This situation is indeed a cause for concern; however, two possible explanations for these results should be considered: either most classrooms were in fact overcrowded, or the 1.5 square metres benchmark per pupil is an unrealistic benchmark. This is an area that needs further investigation.

Policy Suggestion 4.4 The Ministry should undertake an audit of the schools where classroom space does not meet the Ministry standards, with a view to rectifying the situation.

(d) Staffing ratio

The staffing ratio is often referred to as the pupil/teacher ratio. This measure should be distinguished from class size. For this study the staffing ratio was calculated as the total number of pupils in the school divided by the total number of full-time equivalent teachers posted at that school. In a sense this measure reflected the 'wealth' of the school in terms of the provision of teachers. The benchmark set by the Ministry for Zimbabwe was 'a maximum of 40 pupils per teacher'.

The percentages of Grade 6 pupils in schools that satisfied the Ministry's staffing ratio benchmark have been presented as the final variable in *Table 4.1*. The value for Zimbabwe overall was 77.3 percent.

While 93.3 percent of Grade 6 pupils in Matabeleland South were in schools that satisfied the Ministry benchmark, only 60.0 percent and 66.7 percent of Grade 6 pupils in Mashonaland Central and West respectively were in schools that satisfied the Ministry's staffing ratio benchmark.

Classroom furniture and supplies

Altogether, nine areas related to classroom furniture and supplies were employed in benchmark comparisons. In the absence of published benchmark levels in these areas in most countries, the SACMEQ national research co-ordinators agreed on levels with regard to the supply of exercise books, notebooks and pencils. The results of these analyses have been presented in *Tables 4.2 and 4.3*.

(a) Classroom furniture

The benchmarks for classroom furniture were sitting and writing places: one per pupil (one p.p.) and, chalkboard: one per class (one p.cl.), as indicated in *Table 4.2*.

The levels of provision for the three items in *Table 4.2* were generally satisfactory with 97.7 percent of Grade 6 pupils reporting having one sitting place each; 84.4 percent one writing place each, and 92.3 percent in classrooms with at least one chalkboard. While 100 percent of Grade 6 pupils in Matabeleland South were in classrooms with at least one chalkboard, this same region recorded the lowest percentages in respect of sitting (88.9 percent) and writing (65.8 percent) places. Mashonaland West region had the lowest percentage (78 percent) of Grade 6 pupils in classrooms with at least one chalkboard.

Table 4.1. Percentages and sampling errors for benchmarks related to the basic organizational features of schooling

Region	School size		Class size		Classroom space		Staffing ratio	
	% le1120	SE	% le40	SE	% ge1.5	SE	% le40	SE
Harare	26.7	11.81	17.8	6.32	60.0	13.08	80.0	10.68
Manicaland	90.0	6.87	40.3	10.35	35.0	10.93	80.0	9.17
Mashonaland Central	80.0	10.69	43.7	10.51	40.0	13.09	60.0	13.09
Mashonaland East	93.3	6.66	58.5	10.66	46.7	13.31	73.3	11.80
Mashonaland West	80.0	10.69	40.1	10.47	33.3	12.60	66.7	12.60
Masvingo	95.0	4.99	31.8	9.36	25.0	9.92	70.0	10.50
Matabeleland North	66.7	12.57	35.3	11.82	26.7	11.80	86.7	9.07
Matabeleland South	100.0	0.00	62.2	11.82	33.3	12.59	93.3	6.66
Midlands	90.0	6.88	67.5	9.16	35.0	10.93	85.0	8.18
Zimbabwe	81.4	3.04	43.9	3.57	36.5	3.76	77.3	3.27

Note: le = less or equal to, ge = greater or equal to.

Table 4.2. Percentages and sampling errors for benchmarks related to classroom furniture

Region	Sitting places (one p.p.)		Writing places (one p.p.)		Chalkboard (one p.cl.)	
	%	SE	%	SE	%	SE
Harare	99.7	1.53	92.8	6.91	93.1	4.19
Manicaland	97.9	3.29	88.4	7.34	93.3	5.30
Mashonaland Central	94.9	5.91	85.6	9.38	84.9	7.59
Mashonaland East	97.9	3.84	88.5	8.50	89.7	6.58
Mashonaland West	98.9	2.80	85.1	9.52	78.0	8.85
Masvingo	99.7	1.23	81.6	8.88	95.0	4.38
Matabeleland North	97.9	3.85	76.6	11.29	93.3	6.17
Matabeleland South	88.9	8.39	65.8	12.67	100.0	0.00
Midlands	98.4	2.88	87.2	7.66	99.8	0.98
Zimbabwe	97.7	1.18	84.4	2.83	92.3	1.92

(b) Classroom supplies

The percentages of Grade 6 pupils in classrooms with supplies that satisfied the benchmark figures have been presented in *Table 4.3*. For two of the six items the benchmark was four per pupil (four p.p.) while for the rest it was one per pupil (one p.p.).

Considering that these items are critical and essential in a learning situation, the overall pattern of provision for these supplies was unsatisfactory. For the most critical four items (exercise book, pencil, ruler, ballpoint pen), the percentage of Grade 6 pupils with these items ranged from 56.7 percent for rulers to 80.7 percent for ballpoint pens. The lowest figures were for notebooks (3.5 percent) and erasers (37.1 percent). While notebooks are essential, they may not be as critical as exercise books. The benchmark of four per pupil could therefore be regarded as being too ambitious for a developing country like Zimbabwe. This may explain the very low percentage for this item.

While the percentage of Grade 6 pupils with erasers was as low as 37.1 percent, this should not cause alarm as pupils can easily share this item. There are also various forms of unconventional erasers used by pupils but not issued by the school. In some classes, teachers discourage the use of erasers to avoid untidy work. On the other hand, rulers are essential to many aspects of learning at the Grade 6 level and therefore the figure of 56.7 percent for this item was very disturbing.

Table 4.3. Percentages and sampling errors for benchmarks related to classroom supplies

Region	Exercise book (four p.p.)		Notebook (four p.p.)		Pencils (one p.p.)		Rulers (one p.p.)		Erasers (one p.p.)		Ballpoint pen (one p.p.)	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Harare	86.2	3.94	5.6	2.63	82.8	4.30	81.2	4.45	54.3	5.68	90.0	34.2
Manicaland	73.7	3.76	1.0	0.83	60.0	4.18	49.8	4.26	32.0	3.98	63.9	4.10
Mashonaland Central	83.1	3.86	4.0	2.02	50.7	5.15	48.5	5.15	32.2	4.82	69.1	4.77
Mashonaland East	76.0	5.04	2.8	1.93	76.8	4.98	58.1	5.82	46.9	5.89	90.3	3.50
Mashonaland West	56.9	5.76	3.5	2.15	63.6	5.59	50.3	5.81	31.3	5.39	80.2	4.63
Masvingo	75.8	3.91	1.7	1.16	65.8	4.34	50.0	4.57	35.1	4.36	80.3	3.64
Matabeleland North	80.4	5.03	7.4	3.31	75.1	5.49	61.3	6.18	39.6	6.20	87.9	4.14
Matabeleland South	89.3	3.28	7.1	2.73	77.8	4.41	63.8	5.10	46.4	5.29	90.8	3.07
Midlands	84.7	3.73	2.7	1.66	63.8	4.97	55.1	5.15	25.0	4.48	82.0	3.98
Zimbabwe	77.8	1.50	3.5	0.67	68.0	1.68	56.7	1.79	37.1	1.74	80.7	1.42

While the variation among regions for all items was relatively low, Manicaland and Mashonaland Central had consistently the lowest percentages for pencils, rulers and ballpoint pens. The situation for exercise books in Mashonaland West was critical as only 56.9 percent of Grade 6 pupils had enough of this item.

Policy Suggestion 4.5 The Ministry should undertake an audit of the classroom furniture and supplies situation throughout the country, with a view to finding ways of addressing the problem.

Academic and professional qualifications of teachers and school heads

In Zimbabwe, the minimum academic qualifications required for entry to a pre-service primary teacher training programme have changed over the years. The benchmark has also changed from eight years of primary education to 10 years and then later to 12 years of primary and secondary education. When the primary-school cycle was reduced to seven years, the benchmark was changed to 11 years of primary and secondary education. The benchmark for professional qualifications for a Grade 6 teacher has also changed as the system developed. Earlier, the benchmark was two years of pre-service teacher training. In 1996 it was three years.

Some teachers received their pre-service training in the four-year Zimbabwe Integrated Teacher Education Course (ZINTEC). In this programme, students had a 16-week residential course and then entered schools as full-time teachers while receiving further theoretical training via distance education materials. They also attended holiday courses. The 1996 benchmark figure for professional qualifications was therefore three or four years.

Teachers are also expected to be involved in some form of in-service training. However, the Ministry has not set any benchmark levels for in-service training. It was therefore decided to set the benchmark for this area at one in-service course. The percentages of Grade 6 pupils where their own teacher and the school head had reached the benchmark standards for academic and professional training have been presented in *Table 4.4*.

(a) Teacher qualifications

In *Table 4.4* it may be seen that 95.9 percent of Grade 6 pupils were in schools where the teachers satisfied the benchmark figure of at least 11 years of academic education. While there were slight variations among regions, it was interesting to note that in Mashonaland Central and Masvingo, 100 percent of the Grade 6 pupils were taught by teachers who satisfied the benchmark figure of 11 years.

Table 4.4. Percentage of sampling errors for benchmarks related to the qualifications of teachers and school heads

Region	Teachers						School heads			
	Academic qualifications		Professional qualifications		In-service courses		Academic qualifications		Professional qualifications	
	%	SE	%	SE	%	SE	%	SE	%	SE
Harare	97.9	2.38	94.1	3.89	62.6	8.00	100.0	0.00	100.0	0.00
Manicaland	92.9	5.42	59.8	10.35	64.3	10.12	90.0	6.87	100.0	0.00
Mashonaland Central	100.0	0.00	72.6	9.45	38.7	10.32	86.7	9.08	100.0	0.00
Mashonaland East	97.6	3.30	76.6	9.16	37.2	10.46	93.3	6.66	100.0	0.00
Mashonaland West	92.9	5.48	85.3	7.58	36.6	10.30	86.7	9.08	100.0	0.00
Masvingo	100.0	0.00	87.5	6.65	46.6	10.02	85.0	8.18	100.0	0.00
Matabeleland North	93.3	6.17	71.9	11.12	16.6	9.21	93.3	6.65	100.0	0.00
Matabeleland South	97.9	3.50	83.0	9.16	38.5	11.86	93.3	6.66	100.0	0.00
Midlands	93.2	4.94	75.6	8.40	55.4	9.73	90.0	6.88	100.0	0.00
Zimbabwe	95.9	1.43	77.4	3.01	45.7	3.59	90.6	2.27	100.0	0.00

For the professional qualifications of teachers, 77.4 percent of Grade 6 pupils in Zimbabwe were taught by teachers who satisfied the benchmark figure of three years of teacher training. While the percentages for most regions were above 70.0 percent, only 59.8 percent of Grade 6 pupils in Manicaland were taught by teachers whose professional qualifications satisfied the benchmark figure of three years of teacher training. This variation needs further investigation. It is also interesting to note that the percentage of Grade 6 pupils (77.4 percent) taught by teachers with standard qualifications was close to the percentage of trained primary-school teachers (77.6 percent) in the country.

The in-service training situation was not as good as for academic and professional qualifications. While the national average was 45.7 percent, Manicaland and Harare regions had 64.3 percent and 62.6 percent, respectively, of Grade 6 pupils taught by teachers who had attended at least one in-service course. However, the situation in Matabeleland North gave cause for great concern as only 16.6 percent of Grade 6 pupils were taught by teachers who satisfied the benchmark level.

Policy Suggestion 4.6 The Ministry should undertake an audit of teacher professional qualifications throughout the country, particularly in Manicaland, with a view to allocating trained teachers in a more equitable fashion.

Policy Suggestion 4.7 The Ministry should undertake a survey, commencing in Matabeleland North, to identify those teachers lacking in-service training, and then provide suitable in-service programmes for them.

(b) School head qualifications

The results presented in *Table 4.4* indicated a very pleasing picture for both the professional and academic qualifications of school heads. At the national level around 90 percent of school heads satisfied the benchmark for academic qualifications. The results were even better for professional qualifications – with school heads in all regions reaching the benchmark standard.

Policy Suggestion 4.8 The Ministry should identify the small number of schools where school heads do not satisfy the academic qualifications benchmark and then take action to rectify this situation.

Conclusion

This chapter has examined the conditions of schooling in Zimbabwe based on comparisons with either the benchmarks set down by the Ministry or the benchmarks established by the SACMEQ national research co-ordinators. The approach taken was to analyze a range of indicators of the general conditions of schooling under three main headings: basic organizational features of schooling, classroom furniture and supplies, and the academic and professional qualifications of teachers and school heads.

The four indicators under basic organizational features dealt with school size, class size, classroom space, and staffing ratio. Policy suggestions were prepared concerning the following matters: the need for building new schools in some regions, an investigation of the problem of overcrowded classes, and an investigation of the issue of classroom space.

The indicators of classroom furniture and supplies dealt with the availability of sitting places, writing places, chalkboard, exercise books, notebooks, pencils, rulers, erasers and ballpoint pens. The situation relating to classroom furniture (sitting places, writing places, and chalkboard) was just satisfactory throughout Zimbabwe. The policy suggestion in this area focused on the problem of a shortage of classroom supplies.

The indicators of the academic and professional qualifications of teachers and school heads summarized the formal and in-service education and training that they had received. The policy suggestions in this area indicated that there were problems concerning the professional qualifications of teachers (particularly in Manicaland) and the academic qualifications of school heads. There was also a nationwide deficit in terms of the amount of in-service training that had been received by teachers. Matabeleland North was particularly low on this benchmark. The most pleasing finding in this chapter was the fact that 100 percent of Grade 6 pupils attend schools where the professional qualifications of the school heads met the Ministry's benchmark.

Chapter 5

Have educational inputs to primary schools been allocated in an equitable fashion?

Introduction

The educational goal of giving equality of educational opportunity to all pupils is an issue that goes far beyond giving every child access to basic education. It also involves giving all those pupils who are in school an equal opportunity to learn. One way to do this is to ensure that there is an equitable distribution of educational resources among all Zimbabwean schools. This type of approach to resource allocation has been adopted as an official position in the hope that parents will be prepared to send their children to any school in the country because they accept that all schools will provide an equal chance for children to achieve to the best of their abilities.

In all school systems where the government wishes to take action to address the issue of equity, it is important to know the 'location' of differences or variations in resource inputs to schools. For example, it is important to know whether variations in resource inputs are more pronounced among regions, or whether they are larger among schools within regions. An answer to this type of question provides guidance concerning which resources are distributed evenly or unevenly, and at the same time suggests the level at which decisions must be taken (national or regional) in order to address any major inequities that are observed.

In exploring questions of equity, it must be recognized that there is a need to examine allocation patterns in association with actual levels of provision. Such information is necessary because it enables policy-makers to identify which resources and which schools require attention, and also to have some feeling for the total amount of funding that may be needed in order to achieve a more equitable distribution of resources.

This chapter concentrates mainly on an examination of inequities in the distribution of educational resources and not upon absolute resource levels. Consequently the research results presented in the chapter should be examined in conjunction with the results from the two previous chapters, which examined baseline and benchmark resource allocations.

Two approaches to the measurement of equity

(a) Variation among regions

A statistic called the coefficient of intra-class correlation (rho) may be used to divide the variation in resource inputs into two components: (a) among regions, and (b) among schools within regions. Rho can range from around zero to 1.00. When used in this way, rho is a ratio that measures the percentage of total variation among schools that can be attributed to variation among regions. The residual figure measures the average variation among schools within regions.

To appreciate the meaning of rho, it is useful to consider two hypothetical school systems: system A and system B. In school system A, resources are allocated equally, or nearly equally, to all schools and therefore when one calculates average resource levels for regions in the system one finds that these are more or less the same - except perhaps for some minor chance deviations. For such a school system, the value of rho would be low because the variation among schools is associated with chance differences among schools within regions. That is, the among-region variation for school system A is negligible.

On the other hand, consider school system B where, because of administrative decisions, historical factors, or geographical dispersion of social-class groups, etc., there are large variations among the regions. In this case the value of rho would be high. Most of the variation among schools in this case would be due to variations among regions and there would be little variation among schools within regions.

The above examples describe two extremes that serve to illustrate the interpretation of rho. In using rho in policy discussions it is common practice to multiply the values by 100 in order to present a more readable discussion about 'percentage of variance'. For example, a rho of 0.20 means that 80 percent of the differences are among schools within regions and 20 percent among regions. In contrast, a rho of 0.80 would indicate that 80 percent of the differences were among regions and 20 percent among schools within regions.

(b) Variation among schools within regions

It is also possible to quantify the differences among schools within a particular region by making a comparison with the variation among schools at the national level. This can be achieved by using the formula below:

$$\frac{\text{Standard deviation for schools in a region}}{\text{Standard deviation for schools in the nation}} \quad \text{X} \quad 100$$

The standard deviation of an indicator for a particular region measures the amount of variation among schools within that region, whereas the standard deviation for the whole country measures the amount of variation among schools for the nation. The ratio of the standard deviation of an indicator for a region to the standard deviation for the nation, expressed as a percentage, provides a measure of the degree of equity within a region compared with the national picture.

To illustrate the interpretation of these ratio values it is helpful to consider two hypothetical regions: Region A and Region B. Assume that the levels of a resource are measured by an indicator that has a ratio value of 50 percent for Region A and 150 percent for Region B. That is, the variation in resource levels among schools in Region A is 50 percent less than the variation in resource levels among schools for the whole nation; and the variation in Region B is 50 percent higher than for the nation. From these ratio values it can be said that, compared with the national picture, there has been an equitable allocation among schools within Region A. In contrast, the Ministry should be concerned about Region B because there is clear evidence of major inequities among schools in this region when compared with differences among schools for the whole country.

Equity calculations for material resource inputs

In the final column of figures in *Table 5.1*, values of rho (multiplied by 100) have been presented. These figures provide a measure of the variation among regions. For all variables considered in this table, the values of rho were very small, except for the School resources index. In general, this indicated that, for the first six 'material resource inputs' listed in the table, there was very little variation (from around 0 to 5 percent) between regions, and that most of the variation (from around 95 to 100 percent) was among schools within regions. However, for School resources index, the final entry in the table, there was 32 percent of the variation between regions and 68 percent within regions. It will be recalled that the 25 items constituting the School resources index were listed in *Table 3.14*.

From the previous two chapters we have observed that the general level of the inputs listed in *Table 5.1* was, with a few exceptions, mostly inadequate. Taking this into consideration with the values of rho in *Table 5.1* leads to the conclusion that the Ministry needs to do more to establish reasonably adequate levels of material inputs to schools, and also to ensure a more equitable distribution of the items in the School resources index among the regions.

When the mean scores were calculated for each region on the School resources index there was, as to be expected from the value of rho mentioned above, a wide range of values across regions. At the high end was Harare with a mean of 15.4; this was followed by a large drop to 10.5 in Matabeleland North, which was followed by even lower mean scores for all other regions. At the bottom on this index was Matabeleland South with a value of 7.0, which was half the value obtained by the Harare region.

The above figures indicated that the allocation of school resources across regions in Zimbabwe should be immediately reviewed. Particular attention should be given to explaining why schools in Matabeleland South are resourced at such a low level.

Policy Suggestion 5.1 The Ministry should undertake an immediate review of the inequitable allocation of school resources across regions and should give particular attention to the needs of schools in Matabeleland South.

The first nine columns of figures in *Table 5.1* showed the standard deviation among schools within each region expressed as a percentage of the standard deviation among schools at the national level. For example, the value of 52.4 percent for Harare (Region 1) on the Index of classroom furniture showed that the variation among schools in Harare on this index was around 47 percent less than the variation among schools for the nation as a whole. In contrast, the value of 130.2 percent for the same index in Matabeleland North (Region 7) showed that the opposite situation applied – with the variation being around 30 percent higher within Matabeleland North than for the national picture.

Table 5.1. Equity of material resource distribution to schools as assessed by (a) Variation among schools within regions, and (b) Variation among regions

Material resources	Variation among schools within regions									Variation among regions (rho × 100)
	1	2	3	4	5	6	7	8	9	
Class furniture index	52.4	98.9	116.0	109.0	117.6	84.5	130.2	66.2	86.6	5.2
Class supplies index	53.7	101.8	130.1	116.0	106.7	101.5	113.7	65.6	85.4	0.1
Toilets per pupil	86.1	127.8	74.9	85.5	83.8	87.5	165.3	81.0	69.7	0.0
Classroom library (%)	73.9	103.4	105.7	100.2	64.1	108.0	103.9	112.7	95.4	4.5
Classroom space per pupil	67.4	126.5	177.4	92.6	72.3	79.4	68.0	92.5	82.7	0.0
Teacher housing quality	78.6	110.0	97.7	99.0	90.9	106.7	101.1	110.8	99.3	0.0
School resources index	72.6	63.6	87.7	35.7	106.7	85.6	121.6	34.3	112.4	31.7

Note: 1=Harare, 2= Manica, 3= Mash C, 4= Mash E, 5= Mash W, 6= Masvingo, 7= Matab N, 8= Matab S, 9= Midlands.

The results for Matabeleland North warrant further examination. In this region the variation among schools was greater than the national level for six of the seven areas listed in *Table 5.1*. Only Harare fell below 100 percent for all of the material resources on the list. This indicated that when compared with the national picture, there had been a relatively equitable allocation of the material resources listed in *Table 5.1* among schools in Harare. This pattern was also evident in the Midlands (Region 9), where the figure fell below 100 percent for all but one of the material resources. The percentages exceed 120 percent on seven occasions: Manicaland (Region 2) for Toilets per pupil and Classroom space; Mashonaland (Region 2) for Classroom space and Classroom supplies; and Matabeleland North (Region 7) for Classroom furniture, Toilets per pupil, and School resources index. *Table 5.1* also showed that four of the nine regions had higher variation than the nation as a whole for class furniture, and six of the nine regions had higher variations among schools for classroom supplies and classroom libraries.

Policy Suggestion 5.2 The Ministry should investigate why there is such large variation in the allocation of school resources among schools in Matabeleland North, and should also review the allocation arrangements in regions where inequities have been identified for particular resources.

Equity calculations for human resource inputs

In *Table 5.2* the results have been presented for the assessment of equity in human resource inputs (a) among schools within regions, and (b) among regions. In the final column of figures in *Table 5.2* values of rho (multiplied by 100) have been listed. These figures provided a measure of the variation among regions. The values of rho were generally quite low, which indicated satisfactory levels of equity across regions. The rho for inspectors' visits, however, was moderately high and the variation within regions on this dimension was high for Manicaland and Midlands.

The most extreme variations among schools within regions were found for the following regions and human resource inputs. Harare (Region 1) for Pupil/teacher ratio; Manicaland (Region 2) for Teacher academic qualifications and Inspectors' visits; Mashonaland Central (Region 3) for School head academic qualifications; Mashonaland West (Region 5) for Teacher academic qualifications and Pupil/teacher ratio; Matabeleland South (Region 8) for Teacher academic qualifications, Teacher experience; and Midlands (Region 9) for Teacher experience, School head academic qualifications, Inspectors' visits, and Pupil/teacher ratio. Clearly, the Ministry needs to investigate all of these results and to establish mechanisms for addressing the related inequalities among schools within regions.

Policy Suggestion 5.3 The Ministry should undertake an investigation of the specific instances of unequal allocation of human resource inputs that were identified within certain regions.

Table 5.2. Equity of human resource distribution to schools as assessed by: (a) Variation among schools within regions, and (b) Variation among regions

Human resources	Variation among schools within regions									Variation among regions (100 × rho)
	1	2	3	4	5	6	7	8	9	
Teacher prof. Qualif.	44.1	108.3	99.6	109.7	85.8	87.6	114.2	108.2	93.1	8.3
Teacher acad. Qualif.	62.2	120.3	95.2	55.1	165.0	77.1	83.2	125.1	67.1	1.5
Teacher experience	62.7	95.7	62.4	97.1	85.9	88.1	70.2	151.7	121.4	6.6
School head acad. qualif.	84.4	51.8	130.3	68.0	66.5	71.9	70.9	74.6	190.1	0.0
School head prof. qualif.	61.0	96.0	90.5	102.1	110.5	109.4	99.9	112.5	107.3	0.0
School head experience	79.0	87.5	87.9	116.9	115.2	96.1	94.4	112.8	100.0	1.7
Inspectors' visits	67.4	132.8	105.5	46.3	81.8	89.4	70.9	27.0	129.5	16.9
Pupil/teacher ratio	148.6	73.7	49.6	84.1	127.9	85.4	61.4	84.0	132.5	0.4

Note: 1 = Harare, 2 = Manica, 3 = Mash C, 4 = Mash E, 5 = Mash W, 6 = Masvingo, 7 = Matab N, 8= Matab S, 9 = Midlands.

It is important to remember that when material inputs to schools have reached a satisfactory level and equity among districts has been achieved, then it is the human resources that begin to play a role in influencing pupil learning and achievement. The reallocation of human resources is much more difficult than dealing with material resources – which often tend to be a matter of money. For example, it is not easy to persuade teachers with better qualifications to go to disadvantaged areas and distant schools. The same is true for trying to move school heads with more experience. It will require a good deal of ingenuity on the part of the Ministry to deal with this problem and thereby improve the inequity situation.

Conclusion

This chapter has explored the concept of equity of resource allocation for groups of material resources and human resources. This investigation was undertaken along two main dimensions (variation among regions and variation among schools within regions). The general picture that emerged for the among-regions dimension of variation showed that the Ministry had achieved a reasonably equitable situation across regions for a range of both material and human-resource inputs. The two exceptions here were the inequities among regions with respect to the School resources index and, to a lesser extent, Inspectors' visits.

The analyses undertaken to examine equity among schools within regions showed a 'scattered pattern' of inequities. That is, a number of regions showed inequitable allocation for quite different material and human-resource inputs. These results suggest that the Ministry should review the results on a region-by-region basis – taking note of the very high values of the ratio of standard deviations.

Policy suggestions have been made for the Ministry to investigate specific instances of unequal allocation of both material and human resources for particular regions. It was also pointed out that whereas money alone could often improve a situation of inequity for material resources, the movement of people in order to obtain a more equitable allocation of human resources was quite difficult.

Chapter 6

What is the level of reading literacy for Grade 6 pupils overall and in the three domains of reading literacy?

Introduction

This chapter seeks to answer the following question: what is the level of reading for Grade 6 pupils overall and in the three domains of reading literacy? The question was addressed by initially presenting a brief explanation of the structure and content of the test that was used to assess the reading performance of Grade 6 pupils in Zimbabwe. This was followed by a description of how the reading specialists of the Ministry of Education and Culture identified the cut-off scores in the test which corresponded to 'minimum' and 'desirable' levels of reading achievement. The results for the percentages of pupils achieving the minimum and desirable levels of mastery have then been presented. The chapter has concluded with an examination of pupil performance in three key domains of reading literacy: narrative, expository and documents.

The structure of the reading test

The reading test was constructed as a team research project by the SACMEQ national research co-ordinators. The test was designed to provide a valid measure of basic literacy skills for Grade 6 pupils – not only in Zimbabwe, but also in the other countries participating in SACMEQ's initial project. The test items were constructed so as to conform to the reading syllabi for Grade 6 in the different countries. Reading specialists in the different countries also reviewed the items in order to eliminate items that were unsuitable due to content, language, and cultural bias. The items were trial-tested and a final test of 59 items was assembled after a comprehensive analysis of:

(a) the psychometric characteristics of the test items, and

(b) the balance of the test across the main reading content and reading skill areas.

The 59 items covered the three main domains of reading as described in *Chapter 2*: narrative (21 items), expository (23 items), and documents (15 items). In *Table 6.1* the structure of the reading test has been summarized. In the first column the names of the topics used for the passages in the reading test have been listed, followed by an indication of the dimension in which the topic was located. In the next three columns the passage has been allocated to one of the three dimensions of reading. In the final two columns the total number of questions for each topic and the number of questions that were nominated as being 'essential' according to the procedures outlined below have been given. For example, the topic of the first passage in the test was a story about a little boy called Tembo. This was a narrative passage which was linked to a total of five questions, of which two were considered to be essential.

Table 6.1. The structure of the reading test (topics, dimensions, total questions, and essential questions)

Reading test topics	Dimension			Total questions	Essential questions
	N	E	D		
Tembo	✓			5	2
Bird	✓			5	1
Island			✓	4	4
Joseph	✓			5	2
Oranges		✓		4	2
Maria			✓	3	3
Quicksand		✓		3	3
Empty bottles			✓	4	4
Carrots		✓		5	1
Temperature			✓	4	4
Maize		✓		6	2
Grandpa	✓			6	3
Tree		✓		5	3
				59	34

Note: N = narrative, E = expository, and D = documents.

The construction of six reading test scores

(a) The total score on the 34 essential items

The first score that was constructed was a total test score on the 34 essential items that composed the test. Pupils were given a score of '1' for each correct item and '0' for each incorrect item – the total score was then calculated as the sum of these values.

(b) Two mastery scores based on standards set by the Ministry's reading specialists and Grade 6 reading teachers

Two 'mastery' scores were constructed from a subset of 34 'essential' items selected from the 59 test items that had been completed by all Grade 6 pupils. The subset of

34 essential items was selected by a panel comprising a group of four experienced Grade 6 teachers, five of the Ministry's reading specialists (from the Curriculum Development Unit), and the national research co-ordinator. The panel was assigned the task of reading through the passages in the pupil test and the accompanying test items with a view to identifying those items which they deemed to be 'essential for Grade 6 pupils in Zimbabwe to master if they were to commence a successful year of study at secondary-school level'.

The panel then agreed on what would be a 'minimum' level and a 'desirable' level of performance on these 34 essential test items. To achieve the minimum level of performance a pupil was required to obtain correct answers for 14 of the 34 items. To achieve the desirable level of performance a pupil was expected to obtain correct answers for 17 of the 34 items. Thus the first and second test scores were dichotomous designations of mastery at two levels of performance.

It is extremely important to note here that all of this work was completed *before* the data had been collected and processed. That is, the minimum and desirable performance standards were based on the professional knowledge and experience of Zimbabwean reading specialists – and not on (the commonly used but somewhat arbitrary approach of) selecting cut-off points after an inspection of the distribution of reading scores.

(c) Three sub-scale scores based on three sub-dimensions of reading

A further three test scores were based on the three sub-dimensions described above. That is, the total pool of 59 items was split into three subsets: Narrative (21 items); Expository (23 items); and Documents (15 items) and pupil scores were calculated for each subset.

Analysis of mastery levels

The mean scores for the 34 essential test items and their sampling errors have been presented for each region and Zimbabwe overall in *Table 6.2*. This has been followed by the percentages of pupils reaching the minimum and desirable levels of mastery in reading.

The mean score on the essential items of the reading test for Zimbabwe was 15.2 out of a maximum possible score of 34. This level of performance was much lower than had been expected because:

(a) every effort had been made during test construction procedures to design the test to suit the skills of the average Grade 6 pupil, and

(b) the 34 essential items had been selected by Zimbabwean reading specialists because of their relevance with respect to further study at secondary-school level.

Harare had the highest mean score of 19.0, otherwise there was a relatively small amount of variation in the mean scores for the rest of the regions as they varied from 13.8 for Matabeleland South to 15.6 for Mashonaland West.

The information presented in *Table 6.2* concerning minimum and desirable levels of mastery provided an opportunity to generalize to the population of all Grade 6 pupils with respect to the performance standards set down by the Ministry's own reading experts. To illustrate, consider the two figures of 56.4 percent and 37.0 percent in *Table 6.2* for the overall percentage of Zimbabwean pupils reaching minimum and desirable levels of mastery respectively.

Table 6.2. Mean performance on 34 essential items and percentages of pupils reaching minimum and desirable levels of mastery

Region	Performance on 34 essential items		Percentage reaching minimum level of mastery		Percentage reaching desirable level of mastery	
	Mean	SE	%	SE	%	SE
Harare	19.0	0.91	77.7	4.00	61.1	5.10
Manicaland	14.7	0.64	53.4	4.20	36.4	3.33
Mashonaland Central	14.9	0.67	54.1	4.89	33.3	3.85
Mashonaland East	14.3	0.69	51.6	5.13	31.7	5.44
Mashonaland West	15.6	0.83	60.9	4.42	40.7	5.69
Masvingo	15.2	0.75	55.2	3.27	35.7	4.14
Matabeleland North	15.0	0.82	52.2	5.63	33.9	5.84
Matabeleland South	13.8	0.60	50.2	4.59	27.2	4.36
Midlands	14.8	0.69	54.7	4.40	33.6	4.46
Zimbabwe	15.2	0.25	56.4	1.53	37.0	1.59

Using these overall figures and their associated standard errors, it was possible to make the following statements about the reading performance of the total population of Grade 6 pupils in Zimbabwe.

(a) The percentage of the total population of Grade 6 pupils in Zimbabwe that reached the minimum level of mastery on the reading test was (with 95 percent confidence) located between 56.4 ± 2(1.53) percent. That is, between 53.3 percent and 59.5 percent.

(b) The percentage of the total population of Grade 6 pupils in Zimbabwe that reached the desirable level of mastery on the reading test was (with 95 percent confidence) located between 37.0 ± 2(1.59) percent. That is between 33.8 percent and 40.2 percent.

These figures may be looked at in another way by subtracting the percentages from 100 percent in order to calculate the percentages of pupils who have *not* reached the minimum or desirable mastery levels. Thus, we may be very confident that between 40.5 percent and 46.7 percent of Grade 6 pupils have *not* reached the minimum level of mastery; and we may be very confident that between 59.8 percent and 66.2 percent of Grade 6 pupils have *not* reached the desirable levels.

These results presented a very gloomy picture concerning the reading performance of Grade 6 pupils in Zimbabwe. By converting the percentages into 'counts' it was possible to obtain a numerical picture of the problems facing the Zimbabwean primary education system. To illustrate, since we know that in 1995 there were 318,231 Grade 6 pupils in the target population for Zimbabwe, then we can be quite confident in saying that between 128,884 pupils (40.5 percent) and 148,614 pupils (46.7 percent) had *not* reached the minimum level of mastery in reading. Further, between 190,302 pupils (59.8 percent) and 210,669 pupils (66.2 percent) had *not* reached the desirable level of mastery in reading.

These figures highlight the need for a review of Ministry policy concerning the acquisition of literacy skills at the upper end of the primary school system. Many reasons could be advanced to explain why the performance of Grade 6 pupils was so poor. For example, perhaps there were problems with the academic and teaching skills of the teachers, perhaps there had been difficulties in providing the basic inputs to education, or perhaps much of the explanation was linked to the home characteristics of the pupils. In later publications related to this study, analyses will be undertaken to identify some of the more important of these factors and to bring forward some related policy suggestions.

Policy Suggestion 6.1 The Ministry should establish a Reading Literacy Task Force at the primary-school level in order to undertake a comprehensive investigation into why the reading skills of Grade 6 pupils in Zimbabwe are so poor in comparison with 'minimum' and 'desirable' performance standards set down by the Zimbabwean reading specialists.

The generally disappointing overall performance of Grade 6 pupils was not replicated in the same manner for each region. The best performance came from the pupils in Harare region, with 77.7 percent of the pupils reaching the minimum mastery level and 61.1 percent reaching the desirable level. The second-best achievement came from pupils in Mashonaland West region, where 60.9. percent of pupils reached the minimum level and 46.7 percent reached the desirable level.

Harare and Mashonaland West regions appear to have been in a class of their own for both minimum and desirable levels. The results for the other regions indicated generally poorer performances, with Matabeleland South having the lowest percentages for both minimum (50.2 percent) and desirable (27.2 percent) levels.

From the results reported above, it can be concluded that the reading-literacy levels of Grade 6 pupils in Zimbabwe in 1995 were poor when judged against the mastery standards set down by the Ministry's own experts. The poor performance was generally uniformly spread throughout the regions, with moderate levels of success in Harare and Mashonaland West.

Another issue that needs to be addressed by the Ministry is to establish exactly 'where' the pupils had problems on the 59-item SACMEQ reading test. This will require the Curriculum Development Unit to examine the item analysis statistics and to sort the items into three broad groups: (a) those where the students had 'no problems'; (b) those that the students found 'rather difficult'; and (c) those that the students found 'very difficult'. A second analysis is then required of the precise reading skills that are required to address the second two problem areas. This analysis should provide clues as to which area of the reading curriculum is being poorly addressed by the existing teaching programme, and also lead to some suggestions concerning whether the solution to these problems is to be found in improving the teaching materials, the teaching approaches, or perhaps both.

Policy Suggestion 6.2 The Curriculum Branch should be asked to examine pupil performance on each of the 59 items of the reading test in order to identify those aspects of the teaching of reading that need to be reviewed and/or improved.

Analysis of mastery levels for sub-groups

In *Table 6.3* the results for the minimum and desirable levels of mastery for certain sub-groups of pupils have been presented. The first sub-groups to be examined were boys and girls. Then socio-economic groups (based on a measure of the number of possessions in pupils' homes) were considered, and finally sub-groups defined by school location.

A slightly higher percentage of girls, 57.4 percent, than boys, 55.4 percent, reached the minimum mastery level and the same pattern was true for the desirable level of mastery. However, given the magnitude of the standard errors of sampling of the percentages, the differences between the percentages of boys and girls reaching the mastery levels were not significant.

A list of 'possessions in the home', as described in *Chapter 3*, was used as a surrogate measure of the socio-economic circumstances of the homes from which the pupils came. Each pupil was given a score from 0 to 14 depending upon the number of possessions located in his or her home. A 'very low' socio-economic level was defined for those pupils coming from homes having one or zero possessions; the 'low' level as two-three possessions; the 'moderately low' level as four possessions; the 'moderately high' level as five possessions; the 'high' level as six-seven possessions; and the 'very high' level as 8-14 possessions. It may be seen from the final column of *Table 6.3* that this classification divided the total sample of 2,697 pupils into six groups ranging in size from around 330 to 640 pupils.

There were 40.3 percent of children in the 'very low' socio-economic group who reached minimum mastery and very few of them, around 20 percent, reached the desirable level. As expected, there was a general tendency for the percentages of children reaching both the minimum and desirable mastery levels to rise as the socio-economic levels ascended. The only exception here was the slight 'dip' in reading performance for pupils in the 'moderately high' socio-economic group. This group contained the smallest number of pupils and therefore may have deviated from the general trend because of the increased sampling errors.

Table 6.3. Percentages of pupils reaching minimum and desirable mastery levels for sub-groups of pupils

	Minimum mastery level		Desirable mastery level		Sample size
	%	SE	%	SE	
Gender					
Boys	55.4	2.18	36.4	2.26	1333
Girls	57.4	2.15	37.6	2.25	1364
Socio-economic level					
Very low (0-1)	40.3	3.72	20.2	3.26	447
Low (2-3)	51.8	3.16	30.2	4.06	641
Moderately low (4)	56.6	3.98	37.0	5.25	399
Moderately high (5)	53.1	4.38	31.1	4.95	333
High (6-7)	61.5	3.68	42.3	8.86	450
Very high (8-14)	77.1	3.26	63.9	9.06	427
School location					
Isolated	44.1	5.88	26.6	5.60	183
Rural	50.1	1.91	29.5	1.86	1760
Small town	73.7	4.61	56.0	5.57	234
Large city	74.2	3.08	57.6	3.72	519
Zimbabwe	56.4	1.53	37.0	1.59	2697

A particularly striking feature of this table was that the percentage of pupils reaching minimum mastery was almost twice as high for the 'very high' socio-economic level as it was for the 'very low' socio-economic level. For the desirable mastery results, this difference between the two socio-economic groups rose to a factor of three.

The third set of figures presented in *Table 6.3* showed that there were also major differences in reading performances when the pupils were classified according to whether a school was located in an isolated rural area, a rural area, a small town, or a city. Major differences were observed as the school location categories changed. However, the differences between 'isolated' and 'rural' on the one hand, and between 'small town' and 'large city' on the other hand, were small, which indicated that the school location dimension probably needed to be re-classified into two categories: urban and rural.

There were large differences between 'isolated' and 'large city' noted for both minimum and desirable levels. However, care needed to be exercised in interpreting this trend because of the possibility of confusion associated with differences in socio-economic levels among school locations.

Analysis of narrative, expository, and document sub-scales

It has already been mentioned above that three sub-scales made up the literacy test: Narrative (21 items); Expository (23 items); and Documents (15 items). In *Table 6.4*, the mean scores and sampling errors of each of the three dimensions of reading have been presented.

Each sub-scale had different numbers of items and therefore a summary overall comparative picture was obtained at the national level by converting the average scores into percentages. The overall situation for Zimbabwe was as follows. In the Narrative sub-scale 44.8 percent (9.4 out of 21 items) of responses were correct, in the Expository sub-scale 42.6 percent (9.8 out of 23 items) of responses were correct, and in the Document sub-scale 48.7 percent (7.3 out of 15 items) of responses were correct. Given the slightly lower mean level of pupil performance for expository reading, it might be asked if the time spent on learning to read and comprehend expository prose in the curriculum and textbooks should be increased.

The general pattern of achievement on the sub-scales described in *Table 6.4* followed a similar pattern to the results on mastery levels presented in *Table 6.2*. Grade 6 pupils in the Harare region fared best, followed by Mashonaland West. Matabeleland South had the poorest results in both tables. In *Table 6.5*, the narrative, expository and document scores have been presented for the sub-groups listed in *Tables 6.3 and 6.4*. For the sub-scales, the same pattern of results emerged as was evident from the analysis of minimum and desirable mastery levels.

There was a tendency for girls to have a slightly higher score than boys for each of the three reading domains, but given the magnitude of the sampling errors, these score differences were not significantly different. Generally, the pupils from higher socio-economic backgrounds had much higher scores in each domain than pupils from lower socio-economic backgrounds. However, as observed in *Table 6.3*, this trend was 'disturbed' a little by the 'moderately high' group. The mean scores for the 'moderately high' group were either equal to or slightly lower than for the 'moderately low' socio-economic group.

Finally, pupils from 'small towns' and 'large cities' had similar scores, while those from 'isolated' and 'rural' areas also had similar scores. This, again, suggested that two categories of school location (isolated/rural and small/large town) seemed to represent a more functional grouping strategy in terms of examining differences in reading-literacy levels.

In the above discussion of results, the reading performances of various sub-groups of pupils were examined. A critical question in such an examination is to consider to what extent the patterns of differences among the sub-groups are stable or changing over time? For example: is the apparently superior performance of girls over boys consistent – or is it expanding or contracting with time? Will improved economic conditions that appear to be emerging in Zimbabwe result in a reduction of performance disparities among socio-economic groups and among various school locations? These are all very important questions as Zimbabwe seeks to develop as a stable and economically successful nation in the next century.

Table 6.4. The means and sampling errors of pupils on the three dimensions of reading achievement

Region	Narrative (21 items)		Expository (23 items)		Document (15 items)		Total test (59 items)	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Harare	12.1	0.68	11.9	0.63	9.1	0.42	33.1	1.57
Manicaland	9.2	0.39	9.7	0.44	6.9	0.30	25.8	1.01
Mashonaland Central	9.0	0.52	9.9	0.57	7.2	0.38	26.1	1.27
Mashonaland East	8.7	0.54	9.3	0.54	6.9	0.38	24.9	1.29
Mashonaland West	9.5	0.62	10.0	0.61	7.4	0.43	26.9	1.47
Masvingo	9.0	0.55	9.8	0.58	7.3	0.41	26.1	1.37
Matabeleland North	9.5	0.65	9.2	0.60	7.1	0.46	25.8	1.54
Matabeleland South	8.3	0.40	8.9	0.47	6.7	0.35	23.9	1.05
Midlands	9.2	0.47	9.5	0.47	7.1	0.36	25.8	1.14
Zimbabwe	9.4	0.18	9.8	0.18	7.3	0.13	26.4	0.44

In order to have access to the information required to answer these kinds of important questions about the quality of education in Zimbabwe, it will be necessary for the Ministry to begin planning now for the establishment of a strong and comprehensive database related to literacy levels in primary schools. The next chapter of this report begins to explore some of these issues by employing data from a previous study of the reading-literacy levels of Grade 6 pupils.

Policy Suggestion 6.3 The Ministry should design and implement a continuous system for monitoring literacy levels in primary schools, which should feature a detailed analysis of sub-groups of students broken down by variables such as district, gender, socio-economic level, and school location.

Table 6.5. Means and sampling errors of different sub-groups of pupils

Sub-groups	Narrative		Expository		Documents	
	Mean	SE	Mean	SE	Mean	SE
Gender						
Boys	9.2	0.26	9.6	0.27	7.2	0.19
Girls	9.6	0.26	10.0	0.25	7.3	0.18
Socio-economic level						
Very low (0-1)	7.9	0.36	8.0	0.41	6.1	0.30
Low (2-3)	8.6	0.32	9.4	0.34	6.8	0.24
Moderately low (4)	9.0	0.39	9.6	0.43	7.0	0.32
Moderately high (5)	9.0	0.46	9.4	0.49	7.0	0.34
High (6-7)	9.9	0.47	10.3	0.46	7.7	0.32
Very high (8-14)	12.3	0.55	12.1	0.52	9.1	035
School location						
Isolated	8.0	0.57	8.0	0.69	6.5	0.49
Rural	8.5	0.19	9.2	0.21	6.7	0.15
Small town	11.5	0.67	11.7	0.68	8.5	0.45
Large city	11.8	0.49	11.7	0.45	8.8	0.31
Zimbabwe	9.4	0.18	9.8	0.18	7.3	0.13

Conclusion

This chapter has undertaken a detailed examination of the reading-literacy levels of Grade 6 pupils in Zimbabwe. Two key points concerning this examination need to be restated: (a) the test that was used to assess Grade 6 literacy levels was prepared in a scientific manner so as to ensure its validity for this purpose, and (b) the 'minimum' and 'desirable' performance levels were specified by Zimbabwean reading specialists before the data were collected and analyzed.

These two key points, when taken in combination with the overall unsatisfactory performance of the pupils in Zimbabwe and the poor performance of certain sub-groups of pupils, suggest that the time has come for a searching review of the quality of the reading curriculum and the quality of the teachers and their teaching methods. Several starting points have already been put forward as policy suggestions in this chapter. However, the magnitude of the challenge suggests that a serious attack on this area will require the Ministry to undertake further research in order to identify appropriate solutions, and then to allocate sufficient resources to develop strategies for implementing those solutions. It is only through such strategies that Zimbabwe will be able to realize its goal of quality and equity in educational development.

Chapter 7

Was there a change in reading-literacy levels for Grade 6 pupils in Zimbabwe during the period 1991 to 1995?

Introduction

This chapter seeks to answer the question: was there a change in reading-literacy levels for Grade 6 pupils in Zimbabwe during the period 1991 to 1995? The data sources for these comparisons were the 1991 IIEP research study on 'Indicators of the quality of education in Zimbabwe' (Murimba et al. (Eds.), 1994), which was mentioned earlier in *Chapter 2*, and the 1995 SACMEQ study.

As a first step towards developing comparisons for the reading-literacy levels of Grade 6 pupils between 1991 and 1995 it was necessary to undertake a highly detailed investigation of the test items used in the reading literacy tests on both occasions. It was found that, while the tests in each study had used a total of 60 items, only 36 items in each test were *exactly the same* in terms of item stem and optional answers. The comparisons described below were therefore restricted to these 36 items.

The reliability of this 'new' 36-item test was calculated by using the Kuder-Richardson (KR21) formula and was found to be quite high on both occasions: 0.82 and 0.83 for 1991 and 1995, respectively. In the following sections of this chapter the internal structure of the 36-item test has been described and some analyses have been presented for education regions and selected sub-groups of pupils.

The three main dimensions of reading literacy covered by the 36-item test were the same as the dimensions described in the previous chapter. In summary, the 'narrative' dimension was based on continuous texts which told a fictional story; the expository dimension was based on continuous texts which were designed to convey factual information or opinion to the reader; and the documents dimension covered structured information presented in the form of tables, maps, graphs, lists, or sets of instructions.

In *Table 7.1* the numbers of test items in each reading dimension have been listed along with the name or topic of each passage of text. For example, 'Tembo' was a story about a little boy based on the narrative dimension and provided three of the total of 36 test items; 'What is quicksand?' presented factual information about the properties of quicksand in the form of expository text and provided three of the 36 items; and 'Island' provided pupils with a map of the general features and buildings on a small island, represented by four of the 36 items.

Table 7.1. Composition of test items by passage and domain of reading

Name of passage	Domain of reading	Number of items
Tembo	Narrative	3
The bird and the elephant	Narrative	3
Joseph and the donkey	Narrative	4
Grandpa	Narrative	6
What is quicksand?	Expository	3
Carrots	Expository	1
How to tell the age of a tree	Expository	5
Island	Documents	4
Maria's timetable	Documents	3
Empty bottles	Documents	4
Total items		36

Analysis of overall reading literacy levels by region and for Zimbabwe

The mean reading test scores for all administrative regions and for Zimbabwe as a whole have been presented in *Table 7.2*. For each mean score, the standard error of sampling has also been given. The mean score for Zimbabwe on all 36 items was 16.4 in 1991 and 16.5 in 1995. The sampling errors were 0.29 and 0.30 respectively. This indicated that, with 95 percent confidence, it could be said that the population mean for 1991 was within the limits 16.4 ± 2 (0.29). That is, between a low limit of 15.82 and a high limit of 16.98. Similarly, the population mean for 1995 could, with 95 percent confidence, be located between 16.5 ± 2 (0.30). That is, between a low limit of 15.90 and a high of 17.10. There was clearly a large overlap in these confidence limits and therefore the minor difference in mean scores on the two occasions was not statistically significant. From these results it can be concluded that, at the national level, the rather low reading levels of Grade 6 pupils remained much the same between 1991 and 1995.

Following the 1991 study, a suggestion was put to the Ministry of Education to form a National Task Force to examine alternative strategies for improving Grade 6 literacy levels. The extent to which the Ministry took this 1991 recommendation seriously is not easily quantifiable. However, what is clear is that by 1995 no overall improvements in Grade 6 pupil reading-literacy levels had taken place at the national level. The overall picture suggested that, just as in 1991, the Grade 6 pupils in 1995 continued to be handicapped by serious reading deficiencies. This is clearly a situation that calls for urgent intervention by the Ministry – given that reading plays a central role in the whole education process and is vital for survival in a print-dominated world.

Policy Suggestion 7.1 The Ministry of Education should revisit, and take action concerning, the 1991 recommendation regarding the formation of a National Task Force of reading specialists to examine alternative strategies for improving Grade 6 reading-literacy levels.

Table 7.2. Mean performance of Grade 6 pupils on the 36 items that were common to the reading tests that were administered in 1991 and 1995

Region	1991 Grade 6 Pupils		1995 Grade 6 Pupils	
	Mean	SE	Mean	SE
Harare	19.1	0.95	21.0	1.01
Manicaland	15.5	0.67	16.0	0.82
Mashonaland Central	15.6	0.84	16.2	0.84
Mashonaland East	16.1	0.93	15.4	0.88
Mashonaland West	17.4	1.14	16.7	0.93
Masvingo	15.2	0.71	16.3	0.79
Matabeleland North	16.1	1.02	16.3	0.95
Matabeleland South	14.7	0.77	14.8	0.76
Midlands	17.5	0.77	16.3	0.75
Zimbabwe	16.4	0.29	16.5	0.30

The mean reading scores have also been presented for each region in *Table 7.2*. The pairs of mean scores for the regions in 1991 and 1995 showed minor fluctuations which were within two standard errors of sampling for the differences of means for all regions except Harare. Harare was the best-performing region both in 1991 and 1995, and it showed an improvement in mean score over the four years of 1.9 score points. The standard error of the difference of the two means for Harare was 1.4 score points – so this difference in scores of 1.9 score points did not reach the statistically significant value of two standard errors.

Matabeleland South, on the other hand, had the lowest mean scores on both occasions – with 14.7 in 1991 and 14.8 in 1995. The other regions showed little variation in reading-literacy levels between the two occasions. The gap in mean scores between Harare and most of the other regions was quite large on both occasions – even when standard errors of sampling were taken into account.

Analysis of overall reading literacy levels by selected sub-groups

Overall literacy levels were also analyzed for selected sub-groups of pupils. In *Table 7.3* the mean scores for the 36 items have been shown by gender as well as by the type of area in which the school was located.

Analysis of mastery levels by gender showed the mean score for girls improving very slightly from 16.2 in 1991 to 16.9 in 1995, while that for boys decreased very slightly from 16.6 to 16.2. The overall picture showed girls faring slightly worse than boys in 1991 and slightly better than boys in 1995. However, these differences were not significant as they were well within the bounds of sampling error.

It can therefore be concluded that there were no major gender differences in literacy levels both within and between the studies. It should be noted that this research finding was inconsistent with previous research findings on examination results at the secondary-school level in Zimbabwe, where it was shown that boys almost always do better than girls across all subject areas (Murimba et al. (Eds.), 1994).

Policy Suggestion 7.2 The Ministry should broaden and intensify research efforts on pupil achievement trends by gender beyond the Grade 6 level, with a view to ascertaining why girls appear to be performing relatively poorly in secondary-school examinations, yet at the Grade 6 level are reading just as well as boys.

Table 7.3. Mean scores and sampling errors for selected sub-groups of pupils

Sub-group	Overall mean score			
	1991		1995	
	Mean	SE	Mean	SE
Gender				
Boys	16.6	0.41	16.2	0.42
Girls	16.2	0.42	16.9	0.41
School location				
Rural	15.5	0.30	15.0	0.30
Urban	20.1	0.71	20.4	0.62
Zimbabwe	16.4	0.29	16.5	0.30

Pupils were also classified by school location (rural or urban). The analysis of each category revealed no major differences between the two studies. However, there were differences between the rural and urban pupils within each study which exceeded two standard errors of sampling for the differences of means. This 'score gap' of around five points between Grade 6 pupils in rural and urban schools was quite substantial and certainly deserved further attention by the Ministry's reading specialists.

Policy Suggestion 7.3 The Ministry of Education needs to undertake a continuous system of monitoring the substantial gap in literacy levels between Grade 6 pupils in rural and urban schools, and to request a National Task Force to explore alternative strategies for improving the reading-literacy levels of pupils in rural schools.

Conclusion

This chapter sought to answer the question: what were the changes in the literacy levels of Grade 6 pupils between 1991 and 1995? The main answer to this question was that, at the national level, there were no significant changes in the mean scores of Grade 6 pupils.

At the regional level, there was no statistically significant change in reading levels. The Harare region registered a moderate improvement – but the increase in mean scores between 1991 and 1995 was not statistically significant.

Analyses of literacy levels were also undertaken by gender and school location. There were no gender differences in the literacy levels – but major differences continued to be found between Grade 6 pupils attending rural and urban schools.

The fact that there was no change in the quality of pupil reading-literacy outcomes between 1991 and 1995 can be interpreted in two ways. First one can state that 'there has been no decline in pupil literacy levels between the two data collection points'. Alternatively, and more importantly, one can state that 'there has been no improvement'.

This second message seemed more appropriate because the performance of Zimbabwe's Grade 6 pupils in 1991 was *already very poor* and the data presented in this chapter have confirmed that nothing has changed! This information warrants a major enquiry by the Ministry – perhaps by following one of the key recommendations put forward in 1991, and re-stated in this report, which urged the government to set up a well-qualified National Task Force in order to bring forward recommendations for improving the reading-literacy levels of Grade 6 pupils in Zimbabwe.

Chapter 8

An Agenda for Action

Introduction

This report is an illustration of how the analysis of educational research data can be used to reflect upon existing educational policies. The educational research data that were analyzed and presented in the report focused on providing high-priority policy suggestions that were aimed at improving the operations of the primary education system in Zimbabwe. The report is offered to the reader as a research-based agenda for constructive discussion of educational policy options.

The five main chapters of the report resulted in a list of 35 educational policy suggestions. These policy suggestions were designed to take full cognizance of the social, economic, ideological and political environments that influence the operations of the education system in Zimbabwe. A deliberate attempt was made to limit the suggestions to those that could be supported by a careful analysis of high-quality research data derived from a national survey of schools in the country.

In order to make the results of this policy report more 'user friendly', it was decided that the final chapter should present:

(a) a systematic classification of the policy suggestions given in the main chapters;
(b) a listing of the policy suggestions in order of priority.

It was realized that the order of priority of policy suggestions might be controversial as it would inevitably be based upon certain subjective judgements. The list should therefore be seen as a point of departure for a widespread debate and not as an inflexible prescription for government action.

Classification of policy suggestions

Given the complexities involved in implementing a large number of policy suggestions at a single point of time, a decision was taken to undertake a classification of the suggestions according to their operational implications for the Ministry. It was considered that this form of classification would facilitate a more coherent debate concerning the prioritization of the suggestions and the selection of realistic avenues of action.

(a) Grouping the suggestions

Five groups of suggestions were identified in the classification process. Each group was characterized by the nature of the logistical responses that were required of the Ministry.

Group 1: Consultations with staff, community and experts. This group contained eight policy suggestions (3.3, 3.4, 3.10, 3.11, 3.12, 3.16, 6.1 and 6.2) that called upon the Ministry to consult with a range of people inside and outside the education system in order to: (a) prepare proposals for future Regional Office action; (b) suggest alternative strategies for the improvement of the teaching of reading; and (c) identify avenues for broadening pupil access to books.

Group 2: Reviews of existing planning procedures. This group contained six policy suggestions (3.1, 3.2, 3.9, 4.1, 4.6 and 4.8) that identified a range of established planning practices that the Ministry needed to subject to scrutiny and evaluation. The areas of concern raised in this group included pupil absenteeism, lack of learning materials and stationery, benchmarks for a conducive educational environment, and equitable distribution of qualified teachers.

Group 3: Data collection for planning purposes. This group contained four policy suggestions (3.14, 4.4, 5.3 and 6.3) that called upon the Ministry to address issues of shortages of toilet facilities and classroom space as well as the distribution of trained teachers.

Group 4: Educational policy research projects. This group contained seven policy suggestions (3.5, 3.15, 3.17, 5.1, 5.2, 7.1 and 7.2) that identified the need for a research programme for the Ministry which involved surveys on: grade repetition, school and class libraries, borrowing of books, and the availability of classroom supplies.

Group 5: Investment in infrastructure and human resources. This group contained nine policy suggestions (3.6, 3.7, 3.8, 3.13, 4.2, 4.3, 4.5, 4.7 and 7.3) that called upon the Ministry to address issues of scarce human and material resources. The concerns covered in this group included: the provision of more schools, staff development, programmes for teachers, the general improvement of teachers' conditions of service, the provision of classroom furniture, and other learning and teaching materials.

(b) Identifying the important characteristics of each suggestion

The 35 policy suggestions and the five groups into which they were categorized have been listed in *Table 8.1*. This table is an important one for the Ministry because it provides an overview of the main policy messages arising from this report. Each policy suggestion has been linked to the following four factors with the intention of identifying some of the issues that the Ministry must take into account in order to respond successfully to the suggestions.

Responsible department: The name of the department, branch, or unit within the Ministry that should be given responsibility for initiating and supervising action on each policy suggestion.

Data source: The source of data that will provide information for the Ministry concerning the implementation and/or evaluation of action that is to be taken to address each policy suggestion.

Planning level: The decision-making level (national or regional) within the Ministry that will be responsible for the implementation of each suggestion.

Time/Costs: The time-frame and likely cost levels that the Ministry must face in order to address each policy suggestion.

Table 8.1. Summary of Policy Suggestions in association with the responsible department, data sources, the levels at which planning action should be taken, and the suggested time-frame/costs

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Group 1: Consultations with staff, community, and experts				
Policy Suggestion 3.3 The Ministry should commence a research study to investigate the extra tuition industry. This study should seek to discover 'who' is providing the tuition, 'how much' is being paid by parents, and (if the teachers are involved) to what extent there is a 'conflict of interest' arising from the practice of allowing the teachers to receive financial rewards for teaching their own pupils as private clients outside of school hours.	Regional Offices	Regional Directors organize regional discussions	Regional	Short term/ Low cost
Policy Suggestion 3.4 The Ministry should review national policy on homework for Grade 6 and instruct the Inspectorate to monitor the frequency of homework given at this grade level.	Standards Control and Regional Directors	Regional Directors	National and regional	Short term/ Low cost
Policy Suggestion 3.10 The Ministry should establish a common policy on the regularity of giving written tests to Grade 6 pupils so that there is greater uniformity across regions in this important area.	Standards Control and Regional Office	Standards Control and Regional Directors	National and regional	Short term/ Low cost
Policy Suggestion 3.11 School heads should be encouraged to ensure that their Grade 6 teachers meet with parents on a regular basis (not less than once per term) to discuss the progress of pupils, and the Ministry should examine ways in which teachers may be given in-service training in 'how to meet with parents'.	Regional Directors	Regional Directors and School heads	Regional	Short term/ Low cost

Table 8.1 (continued)

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Policy Suggestion 3.12 The Ministry should meet with teachers' associations to discuss the responses of teachers concerning job satisfaction in order to identify strategies for addressing their concerns – especially those related to salary, professional development, and the functioning of schools.	Human Resources and Regional Offices	Regional Directors and Teachers' associations	National and regional	Short term/ Low cost
Policy Suggestion 3.16 The Ministry should launch a campaign to encourage schools to have library books available for borrowing by all pupils. This may be in the form of a special provision of library books to all schools that need them, or it may be in the form of a mobile library system for lending books to schools.	Ministry of Education	School heads Supplies Division	National	Short term/ Low cost
Policy Suggestion 6.1 The Ministry should establish a Reading Literacy Task Force at the primary-school level in order to undertake a comprehensive investigation into why the reading skills of Grade 6 pupils in Zimbabwe are so poor in comparison with 'minimum' and 'desirable' performance standards set down by the Zimbabwean reading specialists.	Standards Control	National Conference	National	Short term/ Low cost
Policy Suggestion 6.2 The Curriculum Branch should be asked to examine pupil performance on each of the 59 items of the reading test in order to identify those aspects of the teaching of reading that need to be reviewed and/or improved.	Curriculum Development Unit	Planning and Curriculum Development Unit	National	Short term/ Low cost

Table 8.1 (continued)

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Group 2: Review of existing planning procedures				
Policy Suggestion 3.1 The Ministry should give priority in resource allocation to Matabeleland South, Mashonaland West, Mashonaland Central, and Midlands in terms of: (a) teaching materials, and (b) teachers with a good command of English, in order to compensate for the high percentage of Grade 6 pupils from homes where little English is spoken.	Finance Branch/ Staffing Branch	Regional Office	National and regional	Short term/ Low cost
Policy Suggestion 3.2 The Ministry should investigate the causes of absenteeism particularly in Masvingo and Midlands, with a view to taking measures to redress the situation.	Standards Control and Regional Directors	Survey on Absenteeism	National and regional	Short term/ Low cost
Policy Suggestion 3.9 There is urgent need for the Ministry to investigate the reasons for the high percentages of Grade 6 pupils who reported that they lacked readers/textbooks, pencils, rulers, erasers and pens.	Head Office and Regional Offices	Regional Directors and responsible authorities	National and regional	Short term/ Low cost
Policy Suggestion 4.1 The Ministry should review, and where necessary establish (and publish in one document), benchmark standards for the educational environment that are deemed to be 'reasonable for the proper functioning of primary schools'.	Standards Control (SC) and Regional Offices	Results of discussions between SC and ROs	National and regional	Short term/ Low cost
Policy Suggestion 4.6 The Ministry should undertake an audit of teacher professional qualifications throughout the country, particularly in Manicaland, with a view to allocating trained teachers in a more equitable fashion.	Human Resources and Regional Offices	Results of audit	National and regional	Short term/ Low cost

Table 8.1 (continued)

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Policy Suggestion 4.8 The Ministry should identify the small number of schools where school heads do not satisfy the academic qualifications benchmark and then take action to rectify this situation.	Regional Offices	Regional Directors	National and regional	Short term/ Low cost
Group 3: Data collection for planning purposes				
Policy Suggestion 3.14 The Ministries of Health and Education should identify schools where toilet facilities do not meet the required standards and then take action to rectify the problem.	Planning Section and Regional Offices	Regional Directors and School Census Form	National and regional	Medium term/ Low cost
Policy Suggestion 4.4 The Ministry should undertake an audit of the schools where classroom space does not meet the Ministry standards, with a view to rectifying the situation.	Planning Section	Revised School Census Form	National	Medium term/ Low cost
Policy Suggestion 5.3 The Ministry should undertake an investigation of the specific instances of unequal allocation of human resource inputs that were identified within certain regions.	Staffing and Planning	Revised School Census Form	National	Medium term/ Low cost
Policy Suggestion 6.3 The Ministry should design and implement a continuous system for monitoring literacy levels in primary schools which should feature a detailed analysis of sub-groups of students, broken down by variables such as district, gender, socio-economic level, and school location.	Planning	Sample surveys	National	Long term/ Medium cost
Group 4: Educational policy research projects				
Policy Suggestion 3.5 A small study should be conducted on the practice of grade-repeating in rural areas in Mashonaland West and Central, Manicaland, and Midlands in order to identify how grade-repeating is practised and to suggest ways of decreasing it.	Planning Section	Results of Research Project	National	Short term/ Low cost

Table 8.1 (continued)

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Policy Suggestion 3.15 The Ministry should review and prioritize those poorly provided facilities (such as duplicators, radios, etc.), the lack of which has a direct impact upon teaching functions, and then establish a medium-term strategy for improving provision to schools.	Planning Section	School heads	National	Medium term/ Moderate cost
Policy Suggestion 3.17 The Inspectorate should be asked to ensure that if schools have either classroom or school libraries, then the pupils should be permitted to borrow books to read at home.	Inspectorate	Inspectors	Regional	Short term/ Low cost
Policy Suggestion 5.1 The Ministry should undertake an immediate review of the inequitable allocation of school resources across regions and should give particular attention to the needs of schools in Matabeleland South.	Planning Section	Results of Survey	National and regional	Short term/ Low cost
Policy Suggestion 5.2 The Ministry should investigate why there is such large variation in the allocation of school resources among schools in Matabeleland North, and should also review the allocation arrangements in regions where inequities have been identified for particular resources.	Finance and Planning	School heads	National and regional	Medium term/ Moderate cost
Policy Suggestion 7.1 The Ministry of Education should revisit, and take action concerning, the 1991 recommendation regarding the formation of a National Task Force of reading specialists to examine alternative strategies for improving Grade 6 reading-literacy levels.	Planning Section and Curriculum Development Unit	Results of Survey	National	Short term/ Low cost

Table 8.1 (continued)

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Policy Suggestion 7.2 The Ministry should broaden and intensify research efforts on pupil achievement trends by gender beyond the Grade 6 level, with a view to ascertaining why girls appear to be performing relatively poorly in secondary-school examinations, yet at the Grade 6 level are reading just as well as boys.	Planning Section and Curriculum Development Unit	Results of surveys	National	Short term/ Low cost
Group 5: Investment in infrastructure and human resources				
Policy Suggestion 3.6 The Ministry should review the allocation of trained and untrained teachers among regions in order to bring about greater equity.	Human Resources and Regional Directors	Revised School Census Form	National and regional	Long term/ High cost
Policy Suggestion 3.7 The Ministry should expand staff development policies that oblige all teachers in regions other than Harare to attend well-structured regular in-service courses. The highest priority in this area should be given to the Matabeleland North region.	Human Resources and Higher Education	Human Resources and Higher Education	National	Long term/ High cost
Policy Suggestion 3.8 The Ministry should ask the Regional Offices to carry out an audit in order to identify all Grade 6 classrooms without basic teaching materials and classroom furniture, with a view to redressing the situation. A priority list of schools in greatest need should also be prepared.	Planning and Regional Directors	Revised School Census Form	National and regional	Long term/ High cost
Policy Suggestion 3.13 The Ministry should undertake a survey to identify primary schools that need major repairs or complete rebuilding, in order to safeguard the lives of children and prevent damage to school property contained in the schools.	Planning Section	Revised School Census Form	National	Long term/ High cost

Table 8.1 (continued)

Policy Suggestion	Responsible department	Data source	Planning level	Time/ Costs
Policy Suggestion 4.2 The Ministry should examine the situation concerning large schools in Harare and Matabeleland North, with a view to encouraging the local authorities to construct additional primary schools in these areas.	Planning Section	School Census Form	National	Long term/ High cost
Policy Suggestion 4.3 The Ministry should urgently investigate the situation regarding overcrowded Grade 6 classes in all regions.	Planning and Regional Offices	School Census	National	Long term/ High cost
Policy Suggestion 4.5 The Ministry should undertake an audit of the classroom furniture and supplies situation throughout the country, with a view to finding ways of addressing the problem.	Planning Section	School courses	National	Long term/ High cost
Policy Suggestion 4.7 The Ministry should undertake a survey, commencing in Matabeleland North, to identify those teachers lacking in-service training, and then provide suitable in-service programmes for them.	Staffing Section	Results of Survey	National	Long term/ High cost
Policy Suggestion 7.3 The Ministry of Education needs to undertake a continuous system of monitoring the substantial gap in literacy levels between Grade 6 pupils in rural and urban schools, and to request a National Task Force to explore alternative strategies for improving the reading-literacy levels of pupils in rural schools.	Planning and Research	National Survey	National	Long term/ High cost

A four-stage Agenda for Action by the Ministry

Given the economic conditions prevailing in Zimbabwe when this report was prepared, it was clearly unrealistic to expect the Ministry of Education, Sport and Culture to make an immediate start on action to address all 34 policy suggestions listed in *Table 8.1*. In fact, even if funding was available to address all of the suggestions, the logistical problems for any Ministry in the world that tried to act immediately and effectively on all 34 suggestions, would be insurmountable.

It was therefore essential to make some attempt to list the suggestions in priority order. Such a listing would provide a starting point for the Ministry to co-ordinate a constructive debate as to which tasks to tackle immediately, and which tasks to leave until resource levels and logistical conditions were appropriate to address them effectively.

After consultation with the staff of the Ministry it was decided that the 'Time/Costs' factor should be the predominant influence in the creation of a priority list of policy suggestions. This factor, described in the final column of *Table 8.1*, was generated by making only a very rough estimate of the resources required for each suggestion and therefore should be subjected to further examination by Ministry staff.

The time estimates took one of three values: 'short' – for around three to nine months; 'medium' – for around one to two years; and 'long' for three to five years. The cost estimates also took one of three values: 'low cost' – for initiatives that required no increased expenditure and could be accommodated within existing budgets through redeployment of staff, more efficient use of resources, and/or refining data collection procedures that were already in place; 'moderate cost' – for activities that required data collection and/or research projects that could not be built into existing arrangements, and would therefore need to be funded in addition to current Ministry operations; and 'high cost' – for large-scale investments in capital works and human resources.

An examination of the final column of *Table 8.1* shows two important patterns. First, for most of the suggestions, short time-frames were linked to low costs, medium time-frames were linked to either low or moderate costs, and long time-frames were linked to high costs. Second, the first two groups of suggestions involving 'consultations' and 'reviews' all featured short time-frames and low costs. The third group, 'data collection', had medium time-frames and low costs. The fourth group, 'research projects', had mostly medium time-frames and moderate costs, and the fifth group of 'investment' suggestions had long time-frames and high costs.

With this information in mind, the authors prepared the following four-stage priority listing of the suggestions. The first stage listed the suggestions that should be addressed immediately by the Ministry. The second stage is recommended for action after the first stage is well under way. The third stage demanded further information to be used as input before a reconsideration of priorities and the selection of a manageable subset of suggestions. The final stage suggested no action by the Ministry until a 'partnership' could be arranged with a suitable donor agency.

Stage 1: For immediate action by the Ministry. The time-frame and cost patterns discussed above showed that the Ministry's first actions, in response to the list of suggestions given in

Table 8.1 should be concentrated on those that were listed under Group 1 ('consultations'), Group 2 ('reviews'), and suggestions 3.5, 5.1, 7.1 and 7.2 from Group 4 ('research projects'). All of these had short time-frames and required little or no supplementary expenditure by the Ministry.

Stage 2: For second-phase action by the Ministry. The suggestions in Group 3 ('data collection') all had medium time-frames – but their costs, except for suggestion 6.3, were low. The three suggestions with low costs should therefore be considered as the focus for a second stage of action to be undertaken when the 'immediate action' designated for Stage 1 has been completed by the Ministry.

Stage 3: For further review before action is taken by the Ministry. There were seven suggestions listed in Group 4 ('research projects') that had short to medium time-frames and low to moderate costs. It would not be possible for the Ministry to address all of these immediately. What is required is an examination of these so as to identify two to three of the most important suggestions for which some preliminary planning could take place. Work in this area could be facilitated by seeking advice from other countries and agencies that have tackled similar issues. A set of literature reviews could also be commissioned to check the present 'state of knowledge' in relevant fields, and to identify talented researchers in Zimbabwe and elsewhere who might be called upon to work with Ministry counterparts on the more technical aspects of the projects.

Stage 4: For action by the Ministry after a 'partnership' has been established. The nine suggestions listed in Group 5 ('investments') all have long time-frames and high costs. It would be difficult in the current economic climate for the Ministry to obtain government support for taking rapid action on any of these – unless some of the required resources can be obtained through a donor agency. These six suggestions should therefore be seen as a list that can be used in discussions with agencies such as the World Bank, United Nations Development Programme, non-governmental agencies, etc. As an alternative, the Ministry might begin to address these suggestions on a very small scale by taking action on one or two of them on an 'experimental' basis in one of the smaller education regions of Zimbabwe.

Co-ordination of Ministry responses to the Agenda for Action

The Ministry of Education, Sport and Culture's response to the four-stage Agenda for Action described above, will demand major inputs by many different groups of people inside and outside the Ministry. This mobilization of efforts and resources will require close co-ordination to ensure that (a) decisions taken at the senior level of the Ministry concerning the policy suggestions are implemented, and (b) a mechanism is established to monitor and evaluate the progress and impact of these decisions.

The authors of this report believe that this co-ordination should be undertaken by the Planning Section of the Ministry of Education, Sport and Culture. Arrangements will need to be made to ensure that the Planning Section staff involved in this work are given sufficient time, resources, and support to ensure that important decisions are followed up and to guarantee that the Ministry's senior decision-makers are given constant briefings on progress and achievements.

The future

This educational policy report grew out of a series of IIEP research and training activities that were aimed at improving the capacity of educational planners to monitor the quality of Education. The collaborative approach used to produce the report represents a genuine breakthrough for the conduct of educational policy research in Africa. It is indeed extremely rare, in any part of the world, for a group of educational planners from many countries to join forces in this way in order to produce common research instruments, conduct the survey, analyze and interpret the data, and finally produce an educational policy report.

From January 1998 to December 2000, it is envisaged that SACMEQ will establish a programme of activities that will include further analyses of the SACMEQ data archives in order to produce policy papers based on comparisons between the SACMEQ countries. During this period, it is envisaged that SACMEQ will design and implement its second policy research project as directed by the SACMEQ Management Committee.

The member countries of SACMEQ acknowledge the important role of a co-operative approach towards capacity building based on the design, management and implementation of policy research projects. SACMEQ represents a unique Africa-controlled initiative in this area, and its sustainability will depend upon the commitment of member countries to continue with their efforts to work together, to learn from each other, and to share experience and expertise.

References

Elley, W. (1992). *How in the world do students read*? The Hague: International Association for the Evaluation of Educational Achievements.

Fuller, W.A. et al. (1986). *PCCARP*. Statistical Laboratory, Iowa State University, Ames, Iowa.

Government of Zimbabwe and UNICEF. (1993). *Programme of Co-operation 1995-2000*. Zimbabwe.

Kish, L. (1965). *Survey sampling*. New York: Wiley.

Ministry of Education. (1996). *Education in Zimbabwe – Facts and information*. Ministry of Education: Zimbabwe.

Moyo, G. et al. (Eds.) (1993). *A Southern Africa proposal for monitoring progress towards attaining the goals of the EFA Jomtien Conference concerning the quality of Education*. Confidential draft proposal. Paris: UNESCO/IIEP.

Murimba, S. et al. (1994). The analysis of educational research data for policy development: an example from Zimbabwe. Paris: UNESCO/IIEP.

Pollitt, E. (1990). *Malnutrition and infection in the classroom*. Paris: UNESCO.

Postlethwaite, T.N. ; Ross, K.N. (1992). *Effective schools in reading: implications for educational planners*. The Hague: International Association for the Evaluation of Educational Achievement.

Ross, K.N.(1987). Sample design. *International Journal of Educational Research*, 11 (1), 57-75.

Ross, K.N. (1991). *Sampling Manual for the IEA International Study of Reading Literacy*. The Hague: International Association for the Evaluation of Educational Achievement.

Ross, K.N. (Ed.) (1995). From educational research to educational policy: an example from Zimbabwe. *International Journal of Educational Research* 23(4), pp. 301-403.

Ross, K.N. ; Postlethwaite, T.N. (1992). *Indicators of the quality of education: a summary of a National Study of Primary schools in Zimbabwe*. Paris: UNESCO/IIEP.

Ross, K.N. ; Wilson, M. (1994). Sampling errors in survey research. In: T. Husen and T.N. Postlethwaite (Eds.), *The International Encyclopedia of Education* (pp. 5131-5142). Oxford: Pergamon.

Schleicher, A. (1995). *Data Entry Manager (DEM) User's Guide*. Paris: UNESCO/IIEP.

World Bank. (1994). *The public sector and poverty reduction options*. Draft Report. The World Bank: Washington D.C.

IIEP Publications and Documents

More than 1,200 titles on all aspects of educational planning have been published by the International Institute for Educational Planning. A comprehensive catalogue, giving details of their availability, includes research reports, case studies, seminar documents, training materials, occasional papers and reference books in the following subject categories:

Economics of education, costs and financing.

Manpower and employment.

Demographic studies.

Location of schools (school map) and micro-planning.

Administration and management.

Curriculum development and evaluation.

Educational technology.

Primary, secondary and higher education.

Vocational and technical education.

Non-formal, out-of-school, adult and rural education.

Disadvantaged groups.

Copies of the catalogue may be obtained from *IIEP Publications* on request.

The International Institute for Educational Planning

The International Institute for Educational Planning (IIEP) is an international centre for advanced training and research in the field of educational planning. It was established by UNESCO in 1963 and is financed by UNESCO and by voluntary contributions from Member States. In recent years the following Member States have provided voluntary contributions to the Institute: Denmark, Germany, Iceland, India, Ireland, Norway, Sweden, Switzerland and Venezuela.

The Institute's aim is to contribute to the development of education throughout the world, by expanding both knowledge and the supply of competent professionals in the field of educational planning. In this endeavour the Institute co-operates with interested training and research organizations in Member States. The Governing Board of the IIEP, which approves the Institute's programme and budget, consists of a maximum of eight elected members and four members designated by the United Nations Organization and certain of its specialized agencies and institutes.

Chairman:

Lennart Wohlgemuth (Sweden), Director, The Nordic Africa Institute, Uppsala, Sweden.

Designated Members:

Carlos Fortin, Deputy to the Secretary-General, United Nations Conference on Trade and Development (UNCTAD), Geneva, Switzerland.

David de Ferranti, Director, Human Development Department (HDD), The World Bank, Washington, D.C., USA.

Miriam J. Hirschfeld, Director, Division of Human Resources Development and Capacity Building, World Health Organization (WHO), Geneva, Switzerland.

Jeggan C. Senghor, Director, United Nations African Institute for Economic Development and Planning (IDEP), Dakar, Senegal.

Elected Members:

Dato'Asiah bt. Abu Samah (Malaysia), Corporate Advisor, Lang Education, Land and General Berhad, Kuala Lumpur, Malaysia.

Klaus Hüfner (Germany), Professor, Freie Universität Berlin, Berlin, Germany.

Faïza Kefi (Tunisia), President, National Union of Tunisian Women, Tunis, Tunisia.

Tamas Kozma (Hungary), Director-General, Hungarian Institute for Educational Research, Budapest, Hungary.

Teboho Moja (South Africa), Special Adviser to the Minister of Education, Pretoria, South Africa.

Yolanda M. Rojas (Costa Rica), Professor, University of Costa Rica, San José, Costa Rica.

Michel Vernières (France), Professor, University of Paris I, Panthéon-Sorbonne, Paris, France.

Enquiries about the Institute should be addressed to:

The Office of the Director,
International Institute for Educational Planning,
7-9 rue Eugène-Delacroix,
75116 Paris, France.

International Institute for Educational Planning
7-9 rue Eugène-Delacroix, 75116 Paris

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

☒ This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").

EFF-089 (1/2003)